The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES—No. XXXIX.*

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SECTION III.

"GETTING," OR LABOUR AND TOOLS.

The PLUG and FEATHER are used much in the same manner as the gad is at present, and may be considered but an arrangement of the gad for winning larger masses. The plug, or wedge, is a tapering piece of iron, rectangular in section ($1\frac{1}{2}$ in. by $\frac{3}{4}$ in. to 1 in. by $\frac{1}{2}$ in.), about 6 in. long. The sides are often made convex, the end or edge is sometimes made of steel. The length of wedges is very various, from 6 in. to 24 in., the weight from 1 lb. to 5 lb. Wooden wedges are often used in coal mines and stone quarries; in the latter they are placed in rows, and after being placed in dry they are made to swell by pouring water on them. In the Saarbrucken coal mines the wooden wedges are sometimes covered with sheet-iron.

The FEATHERS are two (slightly convex on the outside) pieces of iron, which are inserted into a hole, or crack, when it is too large for the wedge, or when the latter has been driven in nearly up to the head, without breaking off the mass. The wedge is driven in between the two feathers: these cause less friction, and in yielding strata cause the pressure to be divided over a greater surface. Their use occurs chiefly in stone quarries and in coal mines.

The SLEDGE HAMMER, used for driving in wedges and plugs, is intended to be used with both hands. The head is more generally straight than curved, the section varying from $1\frac{1}{2}$ to $2\frac{1}{2}$ in. square. In extreme cases the head may be as much as 15 in. long. The weight usually varies from 7 to 10 or 12 lbs., 8 lbs. being the average. The handle varies in length between 20 in. and 30 in. The head is usually made of iron, with steel faces.

BORING AND BLASTING.

Gunpowder was invented and used among the materials of warfare at least a century before it was used for the purpose of blasting rocks in mines, and hence probably it is that in this country the material passes in popular language as gunpowder generally, irrespective of the use to which it is applied. According to the oldest authentic accounts the first application of this material for the purpose of blasting in mines was made by Martin Weigel, or Weigold, Oberbergmeister at Freiberg, in 1613: 20 years later its use was introduced amongst the Hartz mines. Its use, however, may first be said to have become general among the Saxon mines in 1643, or 30 years after its first introduction there.

Before the invention of powder the whole of the excavations in the mine were made by means of the pick and gad, and in some of the older levels of the Hartz and Saxon mines the marks of the pick and gad may still be seen on their sides, giving one some idea of the previous comparatively slow progress by the ancient methods.

We shall consider first the necessary tools required in boring and charging, the various kinds of blasting materials, and lastly the mode of charging and firing.

THE BORER.—In considering this tool we distinguish two parts in every borer—first the stock, and second the bit, or cutter. The stock is often made of wrought-iron, the cutter, which is always of steel, being welded on to it. More lately the whole of the borer has been made of cast-steel, which has the advantage that the blow is better transmitted along the bar to the cutting edge; and, besides, the head, which when of wrought-iron becomes flattened out, is worn away much less rapidly. In Belgium, France, and England the stock is generally made of round iron: this has the disadvantage that the borer cannot be guided in the hand, nor rotated so readily. In Germany, and most metalliferous mines in other countries, and for boring rock in coal mines the stock is often 8-sided, or of square iron, with flattened corners. The diameter of the stock will, of course, depend on the breadth of the cutter; for a hole 1 in. diameter the diameter of the stock is usually $\frac{5}{8}$ in., for $1\frac{1}{2}$ in. hole the stock is 1 in. diameter, for a 2 in. hole the stock is $1\frac{1}{2}$ in. diameter, and for a $2\frac{1}{2}$ in. hole the stock is $1\frac{3}{4}$ in. diameter. Generally the stock is from two-fifths to three-fourths the breadth of the borer.

The simplest form of bit, or cutter, is the chisel bit. This is, however, not the earliest form used on the Continent. The crown bit, and the piston bit, which we shall afterwards describe, were the most usual forms used in the Hartz mines till the year 1750, when the use of the chisel borer was introduced from Hungary, and became general. The ordinary form of the edge is slightly convex, though straight and angular edges are not uncommon. The straight edge is, perhaps, the most effective when boring in very hard rock, and if the angle of the cutting is very acute the edges are more likely to spring than is the case when the edge is made slightly convex. The angle of the cutting edge—that formed between the two sides of the cutting edge—is usually 60°, but varies according to the hardness of the rock. For very hard rock the angle is made more obtuse, and for milder rock the angle may be made more acute. The breadth of the cutting edge must, of course, be made to suit the diameter of the bore hole, and this latter will depend also on a variety of circumstances. The borer is sometimes used without hammer, being made sufficiently heavy to cut the rock, &c., when driven with a short quick blow: this is the usual method of using the borer among coal miners. Occasionally the borer is intended to be struck by one miner whilst being gradually rotated by the other; and in still rarer cases two miners are engaged in striking whilst one rotates. In this latter case the breadth of the cutting edge is from 2 in. to $2\frac{1}{2}$ in., and in some cases as much as 3 in.; in the former case the breadth generally varies between $1\frac{1}{2}$ in. and $2\frac{1}{4}$ in. The most usual method of using the borer in metalliferous mines is for the miner to hold the drill in the left hand and strike with the right; in this case the breadth of the bit varies between 1 in. and $1\frac{1}{4}$ in. The breadth of the cutter also bears a certain proportion to the diameter of the stock, this proportion varying according to the hardness of the rock; for very hard rock this proportion is about 7 to 8, which supposes the use of a straight cutting edge for mild strata, and when the cutting edge is slightly convex the proportion is about 4 to 3.

As it would in most cases be not only inconvenient but also lead to a less effect to commence a hole with a borer of the total length, it is usual in coal mines to have two sizes, and in metalliferous mines three different sizes—in length—of borer. If a long borer were at once used a greater part of the effect of the blow would be lost in vibrations in the borer, and this loss would be greater in proportion to the length of the borer, and hence the advantage in the use of steel, which, besides having a greater elasticity than iron, can on account of its greater strength be made lighter than an iron one, and less of the force of the blow is lost in vibrations and change of form (*i.e.*, flattening of the head) with a cast-steel than with an iron stock. The number of various sizes of borers in a set used in boring one hole will vary with the hardness of the rock, and the rapidity with which the borers are worn away, both at the head and cutting edge. Not only are lengths of the borers in a set different, but the width of the cutting edge also varies slightly, for the edge gets worn narrower with use, and consequently a bore hole is seldom perfectly cylindrical, usually narrowing very slightly as the bore hole gets deeper. Were the remaining borers of exactly the original size of the bore hole they would be liable to be wedged fast with the first blow, and the miner would find them fitting so tightly that he would have great difficulty in rotating the borer at all. Hence each successive borer in a set has the cutting edge made somewhat narrower; generally a diminution of between $\frac{1}{8}$ in. and 1-16th in. will be found to suffice. In the Hartz mines, where the borers are generally rotated and struck by the same miner, three sizes of borers form a set; the first are from 15 to 18 in. long, the cutting edge $1\frac{1}{2}$ in. broad; the second are from 27 to 30 in. long, the cutting edge 1 in. broad; and the third are from 36 in. to 40 in. long, and the cutting edge 29-32 in. broad. The borers used in the same mines, and intended to be held by one miner and struck by the other, have also three different sizes in a set; the first are 25 in. to 30 long, and the cutting edge $1\frac{3}{4}$ in. broad; the second are 38 in. to 42 in. long, and the cutting edge $1\frac{1}{2}$ in. broad broad; the third are from 45 in. to 50 in. long, and the cutting hedge $1\frac{1}{4}$ in. broad.

In Bleiberg the somewhat unusual custom is first to bore the hole to the total depth with a smaller borer, from $\frac{1}{2}$ in. to $\frac{5}{8}$ in. in in width, and afterwards to enlarge the bore hole with a borer having the cutting edge 1 in. wide. In the coal mines of Westphalia and Silesia the drifting and sinking are usually undertaken by Italians on piece work, who use borers with octagonal stocks from 12 in. to 52 in. in length, the breadth of the cutting edge varying from 1 in. to $1\frac{1}{4}$ in., and the diameter of the stocks averaging 1 in.

The oldest form of borer is, perhaps, the piston borer, which has the cutting edges concave, forming four points on the periphery, and one in the centre projecting more than the rest. Contemporary with the piston borer is, probably, the crown borer, which has four points formed by the cutting edge. The effect of these borers is very small compared with the ordinary chisel borer, but are easier to use, especially for beginners, and even now they are sometimes used in the case of very deep holes, where it is difficult to obtain a round hole with the ordinary chisel borer.

The HAMMERS used for striking the borers vary, as might be expected, in size and weight, according to size of borer, and whether the same miner rotates the borer and strikes the blow or not. In the former case the weight varies between 2 lb. and 4 lb., except when the bore hole is in a downward direction, when a somewhat heavier hammer can be used: the shaft is usually from 10 in. to 12 in. long. When the striking is done by a second miner the weight varies between 7 lb. and 9 lb., and the length of the shaft between 24 in. and 30 in. The Italians are accustomed to the use of very heavy hammers: in overstoping the weight averages $7\frac{1}{2}$ lb., for understoping the hammers weigh 12 lb., the length of the head 8 in., the radius of the curve of the head is $10\frac{1}{2}$ in., the height of this curve is $\frac{3}{4}$ in., and the faces of the head are $1\frac{1}{2}$ in. square. The ordinary size used by them weighs 11 lb., the hammer head is $10\frac{1}{2}$ in. long, the radius of the curve of the head is $12\frac{1}{2}$ in., the faces being also $1\frac{1}{2}$ in. square, and the shaft is only $8\frac{1}{2}$ in. long.

In boring in rock it is usual to pour water into the bore hole, to keep the cutting edge cool, and thus prevent it from being readily blunted, and to facilitate the work by converting the dust, or meal, which would deaden the blow, into a wet sludge. This sludge is for the greater part driven out of the hole by every blow, and to prevent its inconveniencing the miner by splashing over his hands and face a round piece of leather, with a hole in the centre, or a small band of straw is slipped over the borer, covering the mouth of the bore hole.

THE SCRAPER.—As it is only in bore holes inclined upwards that the meal will fall out of itself it is necessary to have some means of clearing the bottom of the bore hole from the meal, which if allowed to remain at the bottom would cause the blows to be less and less effective. The tool used for this purpose consists of a light iron rod, about $\frac{3}{8}$-in. thick, having the end flattened out to form a round disc a little smaller than the bore hole; the disc is turned up at right angles to the rod, and sometimes the disc is slightly dished, so as to hold the meal better. When the rod is inserted in the hole and slightly turned round the meal collects on the disc, and is thus scraped out. The other end of the rod is usually provided with a round handle, in other cases with a spiral like a cork-screw, or a hole, to which wisps of hay or straw can be attached for cleaning out or drying the bore hole.

The TAMPING BAR is a round bar, used for stamping or ramming down the tamping in the bore hole; the lower end swells out gradually till nearly the same diameter as the bore hole. One side of the bar near the lower end has a round groove cut in it to allow of the tamping bar being pushed to the bottom of the bore hole past the pricker. In some of the continental mines soft iron is the material out of which the tamping bar is made; it is not, however, safe, being liable to strike fire against hard rock. In consequence of this liability on the part of iron to strike fire, the tamping bar, or at least the end of it, is made of copper, or bronze, or some soft metallic alloy not liable to strike fire. In the Saxon mines it has been objected to on account of wearing away rapidly. Sometimes the charge is rammed down with the tamping bar alone, and at other times the end of the tamping bar is struck with a hammer; it is most advisable in commencing to ram down the charge to do so with the tamping bar alone, and afterwards to use the hammer. In some districts wooden tamping bars are used, of maple or beech; at Freiberg oak bars with iron heads to receive the blow of the hammer were found to give satisfactory results.

The NEEDLE, or PRICKER, is a long rod gradually tapering towards the end and made of copper, for the purpose of preserving a vent hole through the tamping. The needle is usually about $\frac{1}{4}$ to $\frac{3}{8}$ in. thick, in rare cases as much as $\frac{1}{2}$ in. in diameter; sometimes the needle is made of an alloy of tin and lead, but they are easily broken. The needle should never be made of iron, as there is greater danger in the use of an iron needle than an iron stamper. The great objection raised by miners against the use of powder in cartridges—that the powder space is not so well filled as when loose powder is used—has been tried to be avoided by using hollow needles, so as to allow the air vent during the stamping, but it was unsuccessful on account of the weakness of needles so made. In some mines it is customary to slip a reed over the needle, which when the latter is withdrawn forms a sort of lining to the hole, and has the advantage of keeping off small grains, &c., from the needle, and allows of it being extracted with less liability to strike fire as it is being extracted.

When a bore hole has been driven in jointy or wet ground where the powder would lose much of its force in the cracks, or be liable to become wet owing to water penetrating into the hole, it is usual to line the hole with clay. The clay is forced into the cracks and tight against the sides by means of the clay iron, which is simply a smooth round iron bar, with one end slightly pointed, and the other end swollen out, having an eye through it through which an iron bar can be passed to rotate the clay iron, which is necessary to form a smooth hole; the end is prolonged somewhat past the eye, and forms the head, which is struck by the hammer when being driven into the hole.

In some mines the tamping is passed to the bottom of the bore hole in a case of sheet copper or brass, having a long handle attached. The end of the tamping bar can slide within the case; in using it the case is filled with tamping, and the tamping bar is inserted just within the case, and both are pushed together to the bottom of the hole—the case is then drawn back over the tamping bar, which is left close against the tamping.

In many cases the powder is introduced (when used in a loose state) to the bottom of the bore hole by means of a charger, which is simply a long tube of copper provided at one end with a funnel into which the powder is poured, and afterwards pushed to the bottom by a stick. By this means the danger of any of the grains of powder sticking to the sides of the bore hole and firing during tamping is avoided.

MONSTER AIR-COMPRESSOR.—At one of the mines on the Comstock Lode a huge compressor manufactured by Messrs. Prescott, Scott, and Co., of San Francisco, has just been put to work. The air-cylinder is of 30 inches diameter and 36-inch stroke, lined with composition. This is encased in a water jacket, through which the circulating water carries off the heat engendered by the compression of air. The admission valves are supplied with safety rods and distance guards, the first preventing the valve from falling into the cylinder if the main stem breaks, and the second regulating the lift. The piston is packed with composition rings, and fitted with a steel rod, and the crosshead, connecting rod crank, pillow block, and shaft, are of the most improved and substantial kind. The fly-wheel weighs 34,000 lbs., and runs with the utmost smoothness and perfection. The steam-engine is fitted with all modern appliances, and is a representative of the highest mechanical construction in that line to date. The cylinder is of 27 inches diameter and 36-inch stroke, fitted with steel rods and brass bushes. The balance valve and cross cut-off are adjustable while in motion, and all the work and material the best attainable. The machine weighs nearly 54 tons, and rests on a solid mass of masonry 20 feet deep.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath, Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

The second annual meeting of the Mineralogical Society of Great Britain and Ireland was held on Wednesday, Aug. 15 (the day of the opening of the British Association), at the Plymouth Institution. Mr. H. C. SORBY, F.R.S. (the President) occupied the chair, and among the members present were Prof. Harkness, F.R.S., Mr. Maskelyne, Dr. Foster, F.G.S., Dr. Oxland, F.C.S., Rev. T. Bonney, F.G.S., Messrs. P. M. Hall, F.G.S., B. Kitto, F.G.S., A. K. Barnett, F.G.S., and J. H. Collins, F.G.S. (the secretary).

The annual report, which was read by Mr. COLLINS, stated that although the society had only been in existence 18 months, there were now on the books 4 corresponding members, 13 life members, 112 annual members, and 12 associates. That day 8 additional members and 6 associates had been elected.

On the motion of the PRESIDENT and Dr. OXLAND the report, which was considered highly satisfactory, was adopted.

The examination of the voting papers showed that Mr. Sorby was re-elected President, and Profs. Haughton and Heddle Vice-Presidents, while Mr. Collins was re-elected general and Dr. Foster foreign secretaries.

The PRESIDENT then proceeded to deliver his address. He commenced by an explanation of his new and ingenious method for determining the index of refraction of minerals, which afforded an entirely novel and very ready means of observing the more leading characters of any mineral, giving an area of a twentieth of an inch of sufficient transparency. The extent to which the focus of the microscope to which the apparatus was applied was shifted by the mineral under examination could be determined to the thousandth part of an inch. This instrument had revealed the existence of an entirely new class of optical characters in crystals. He had worked up the observational part while Prof. Stokes investigated the question mathematically. Papers on the subject had been communicated to the Royal Society. The principle employed was to examine with a microscope a circular hole, or grating, with lines at right angles to each other, through sections of minerals. Very different phenomena were then seen, according as the mineral had no double refraction, or had one or two optic axes. In the first case a simple circular hole was seen; when a crystal had one optic axis two images were seen. In one of these the hole was seen in its natural form, but in the other image the hole was drawn out into bands, which had different focal points. When the crystal had two optic axes the circular hole was seen as a cross at two different focal points. An ordinary ray had only one focal point, and was therefore said to be uni-focal, whereas an extraordinary ray had two very distinct focal points, and was called bi-focal. This subject was not only of great interest in connection with the theory of light, but was also practically useful in identifying different minerals, and was altogether new.

Several interesting papers were read.

"On a New Form of Phosphorite," by H. H. GUNN, F.G.S., Associate Royal School of Mines.—This paper explained the physical and chemical characters of an entirely new form of phosphorite, from Southern Russia, which occurs in rounded masses, from 5 to 9 in. in diameter. The outer surface was smooth, and its appearance suggested the form being due to the action of running water. Fracture, however, revealed the fact that in every instance the balls were composed of a number of fibres radiating from the centre, of small size, bluish-grey in colour and with a hardness of about 4. The balls were not solid throughout, but contained fissures near the centre similar to those found in septaria and clay ironstone; these fissures being in every instance coated with a thin film of phosphorite of a yellowish-brown colour, which might be staffelite. An analysis by Dr. Oxton showed—Phosphoric acid, 35·18; carbonic acid, 1·50; lime, 47·88; oxide of iron and alumina, 2·65, 8·25; water in combination, 1·80; ditto at 212°, 3·27; undetermined, ·97. Equal to tribasic phosphate of lime, 76·88; and carbonate of lime, 3·41. Other analyses had shown a still great percentage of phosphate, some as much as 82 to 84 per cent. of tribasic phosphate, so that in spite of its promising appearance it was really rich in the element so valuable for agricultural purposes. He found no trace of organic origin in the specimens, and formed the conclusion that they had been formed by slow segregation from the contained rock. They were found a few miles to the north-east of Kicheneff, where they had weathered out from the rock, thickly strewing the hill sides. Large quantities were also found in the valleys. The specimens were derived from the limestone beds, a small piece of rock attached to one being undoubtedly limestone. Further examination of these rocks might show that these phosphate deposits occupied the same geological horizon as those recently discovered in Wales.

"On the Microscopic Structure of Luxulyanite," by the Rev. T. G. BONNEY, M.A., F.G.S.—Boulders of this rock were abundant in the parish of Luxulyan, in Cornwall, and a magnificent block was quarried for the sarcophagus of the Duke of Wellington. It had never been discovered *in situ*. The rock consisted of a matrix of velvet-black tourmaline (schorl), in which were embedded grains of white quartz, occasional small and rather irregular crystals of felspar, and large more regular crystals of the same mineral—orthoclase—1 to 2 in. long, pinkish in colour, spotted with small included masses of black tourmaline. Closer examination showed that the matrix was composed of a dense mass of minute acicular crystals of schorl, matted together like intergrowing tufts of grass, and interspersed with white quartz. Examined by the microscope under transmitted light the rock was found to consist of a matrix of colourless quartz, often crowded with acicular crystals of schorl (the bluish variety), of irregular grains of brownish tourmaline, and of crystals of orthoclase felspar, more or less decomposed. The quartz was generally clear and pellucid, and here and there contained minute enclosures, which in some cases appeared minute belonites, probably schorl, but often mere amorphus brownish grains like fine dust. The schorl occurred in acicular crystals massed together in tufts. The crystals when cut across the prism were transparent indigo blue, or dull greenish blue; when cut lengthwise of a drab or pale brownish stone colour. The crystals were hexaginal prisms. By polarised light the longitudinal sections exhibited strong dichroism. The quartz in which these crystals were embedded—seemingly growing in it like herbs under water—was not entirely crystalline, but consisted of various granules. With transmitted light the brown tourmaline was seen to form grains of irregular outline traversed by irregular cracks. The porphyritic crystals of felspar when examined microscopically, were seen to be much decomposed. Mr. Bonney regarded the Luxulyanite as a peculiar metamorphic form of ordinary granite, the schorl resulting from chemical action on felspar. Tourmaline was frequently present in granites and felsites, especially in Cornwall. He had studied several of these both microscopically and in the field, and the mineral had to him always the aspect of a secondary product, and was closely associated with decomposed felspar. The veins of schorl rock, so common in South-Western Cornwall, may be traced through decomposing granite till they died away in strings and dykes of schorlaceous rock west of Mousehole, which at first sight might be taken for true intrusive dykes, on closer examination seen to pass through rapidly into the adjoining rocks. If, however, Luxulyanite was an altered granite, they had to account, first, for the absence of the mica of the granite; and, secondly, for the fact that the original grains of the quartz, if any existed, did not seem to have offered any opposition to the formation of the new crystals. These points Mr. Bonney discussed at length, and showed the transparent micaceous origin in the brown tourmaline. The paper was an exceedingly interesting and valuable one.

"Note on Duporthite, a New Asbestiform Mineral," by J. H. COLLINS, F.G.S.—This mineral occurs in fibrous masses, occupying fissures or shrinkage cracks in the serpentine of Duporth, near St. Austell. The thickest vein was not more than $1\frac{1}{2}$ in., and the fibres were transverse, making generally an angle with the vein walls of 70°. Duporthite was greenish to brownish grey, had a silky lustre, a hardness of 2, and a specific gravity of 2·78. These fibres were flexible. Heated in a matrix the mineral gave off a little water, and became lighter coloured; forceps these fibres fused to a dark glass; the spectroscope showed the sodium and calcium lines distinctly, but no trace of potash or lithium. The analysis showed—Silica: experiment, 49·21; theory, 48·0.—Alumina: experiment, 2·[illegible] theory, 30·9.—Protoxide of iron: experiment, 6·20; theory, 7·2.—Magnesia: experiment, 11·14; theory, 12·0.—Lime: experiment, 0·39.—Soda: experiment, 0·68.—Water: experiment, 3·90; theory, 1·8.—Water hygene: experiment, 0·68: half of the water was given off more readily than the other half. He should regard the more obstinate portion of the water as basic; this composition agreed tolerably well with the formula $-3\,(Al2\,O\,3\,Si\,O\,2) \times 5\,(3\,5\,Mg\,1\,5\,Fe\,1\,5\,H\,2)\,Si\,O\,2$. It had some resemblance to chrysotile, anthrophylite, and some of the fibrous hornblendes, but differed widely in composition.

"Further Notes on Mineral Growth," by THOMAS A. READWIN, F.G.S.—Since his last paper on this curious subject, Mr. Readwin has visited the museums of Copenhagen, Stockholm, Christiania, Kongsberg, and London in search of corroborative evidence of recent mineral growth at ordinary temperatures under ordinary conditions. He took some of his best examples with him, and submitted them to many eminent mineralogists. The silver specimens at Copenhagen for variety, and beauty surpassed all others, probably, in the world. The silver grew out of calcite, epidote, fluor, and argentite were almost numberless. Some were old, others recent, and a few even infantile. He likewise found argentite and antrum growths; the latter both out of quartz and pyrites, and including some bright and positively very recent. Bismuth growth was also observed, and formations of recent gold growth. The Stockholm collection had the reputation of being in part the oldest in the world. There were very many Kongsberg silver growths more or less tarnished, of great size and beauty, and some small ones of recent

...s also tarnished electrum growths, a few comparatively bright. At Chris... there were recent copper growths out of fluor, foliated electrum growths out ...quartz, and silver growths out of Kongsberg argentite. At Kongsberg there ...the most variedly interesting collection of silver specimens it was possible to ...and silver growths in abundance, including flat plates of silver growing at the ... At the British Museum were a few small electrum growths which he be... and were recent. He added a list of his chief "home growths" since May 5 last, ...of which he described as of a very remarkable character.

...Remarks on the Distribution of Minerals in North Devon," by ...SHEND M. HALL, F.G.S., &c.—The district to which the following notes refer is contained in sheets 26 and 27 of the 1 inch ...nance Survey Maps, and embraces an area of about 985 square ...miles, the northern boundary being formed by the Bristol Channel, ...that on the south by a line drawn through the town of Okehampton. The works composing this district belong to the Devonian and Carboniferous systems, with the exception of a small portion of New Red Sandstone ...a patch of greensand, occupying a few acres. The two older systems present a similar sequence of beds from north to south, which interrupted by the granite of Dartmoor are represented to a greater or less extent by a similar series in the northern portion of the county, where, however, they are disturbed and altered by ...association with igneous rocks. In the greensand at Orleigh Court, near ...Bideford, manganese and iron are found together with flint and chert. In the ...Bideford series a line of intermittent beds of anthracite runs from Barnstaple ...to Cumberleigh Station, a distance of 13 miles. These beds vary in thickness ...from 6 in. to 24 ft. Small strings of iron ore, occasionally mixed with manganese, ...are rarely met with. The quarries of Venn and Swymbridge, in the mountain ...limestone, afford minute crystals of calcite, whilst in a band of indurated shale ...near South Molton wavellite was first discovered about the year 1785. The Upper ...Devonian in North Devon admits of the three following subdivisions:—1. Pilton slates.—2. Cucullæa sandstone.—3. Pickwell Down sandstone. The Pilton slates, which are very fossiliferous, contain copper ores in several localities, with ...iron, and blende, but in the Cucullæa Sandstone, which is also fossiliferous ...of these ores have been found. The Pickwell Down sandstones are a series ...of rocks, entirely destitute of organic remains. Veins of hematite with oxides ...of manganese are abundant, and have been worked in several localities. The ...eastern boundary of these metalliferous deposits is formed by a narrow band of ...wavellite felstone, which runs along the division between the Upper and Middle ...Devonian groups. The Middle Devonian, like the Upper, consists of three subdivisions.—1. Morthoe slates.—2. Ilfracombe slates and limestones.—3. Martinhoe ...Sandstones. The Morthoe slates are unfossiliferous; they are characterised ...by Ilfracombe beds. The Morthoe slates are unfossiliferous; they are characterised ...by the abundance of quartz veins, which intersect the slates in every possible direction, but no instance is known of the occurrence of metallic veins. In the Ilfracombe beds argentiferous galena has been worked at Combmartin since the year ...1845, and is associated with the ores of copper, small quantities of blende, and anti...mony. In the limestone bands Aragonite is not uncommon. The Martinhoe or ...Foreland grits contain beds of iron ore in a line parallel to the strike of the rock. ...The Foreland is divided into (1) the Lynton beds, (2) the Foreland sand ...and grits. The Lower Devonian is fossiliferous, with a general absence of ...limestones, whilst in the Foreland beds, which are the lowest known members of ...the series, iron again appears. From this carboniferous district no general deductions can be drawn, since it is so deficient in mineral wealth, but the Devonian ...series ranging between Lynton and Barnstaple present several points of interest, ...which may thus be summed up. Each of the eight beds which have already ...been specified have a distinct mineral character. The greatest amount of resemblance is to be found in the Foreland, Martinhoe, and Pickwell Down series, or ...Nos. 1, 3, and 6 in order of superposition, as they are all characterised by the presence of iron and the absence of organic remains. The Ilfracombe and Pilton ...slates, or Nos. 4 and 8, resemble each other in being fossiliferous, and in yielding ...lead, copper, and zinc; they each also contain calcareous bands. From the Lynton, ...Morthoe, and Cucullæa beds no conclusions can be drawn, as they have no analogy ...either with each other or with any of the other groups

"Notes on some Norwegian Minerals," by T. A. READWIN, F.G.S. The silver mines near Kongsberg were said to have been worked ...continuously for the last 200 years. Specimens were obtained and ...examined. These were of special interest just now as illustrating the theory ...of vegetal growth, and more particularly so as two of them had since the writer ob...served them thrown out sundry hints of bodily activity—in fact, had grown. He ...described the specimens in detail, mentioning particularly those which had changed ...since he had them, and added that the majority of the silver specimens he saw at ...Kongsberg came under the definition "growth."

THE BRITISH ASSOCIATION.

The British Association for the Advancement of Science has held ...its meeting this year at Plymouth, commencing on Aug. 15 and ending on Aug. 23. The attendance has not been so large as on some ...previous occasions, but the proceedings have been marked by great ...interest and value. "Embryology" was the chief topic dealt with ...by the President (Dr. ALLEN THOMSON) in his address. We append ...abstracts of the papers and addresses of chief interest to our readers.

STOCKWORKS IN CORNWALL.—Dr. C. LE NEVE FOSTER, the Government Inspector of Mines for Devon and Cornwall, read a paper ...on some of the Stockworks of Cornwall." He defined a stockwork ...as a mass of rock intersected by a number of mineral veins ...at short distances apart, and sometimes crossing one another in all ...directions. These deposits were generally wrought by open quarries, ...and has afforded a capital opportunity of studying the mode of ...occurrence of tin to such as did not care to descend deep mines. ...They were also interesting commercially, on account of the small ...percentage of tin that would cover all expenses. The tin stockworks of Cornwall might be divided into three classes, as they ...occurred in killas, granite, or elvan. Proceeding from east to west there were ...the (clay-slate) stockworks at Wheal Prosper and Michell Mulberry, Minear ...Downs, Park of Mines, Polberro, Trevaunance, Wheal Coates, Pedn-an-drea, and ...Wheal Fortune. At Wheal Prosper the produce was only 3 lbs. of tin to a ...ton of stuff, so that with black tin at 4*l.* per ton, the ton of stuff as it stood was ...worth only 1s. 1½*d.*, out of this all expenses had to be paid. The stuff was soft ...and friable; the tin ore in large grains; the substances mixed with the ore were ...generally very much lighter, and easily removed by washing; there was no ...need to necessitate calcination; and there was water-power at command. But ...in spite of these advantages the result was to be marvelled at, and it was doubtful ...whether there was any place in the world where such poor stuff was being treated. At Mulberry the produce was about 7 lbs. to the ton, and could even at present ...scarcely be made to pay all expenses. Minear Downs very much resembled Mulberry. The great open quarry there was 200 yards long and 60 or 70 yards wide ...at the top, but only 90 yards long and 20 or 30 yards wide at the bottom. The ...greatest depth was about 120 ft., so that an enormous quantity of tinny rock had ...to be removed. At Park of Mines the ore occurred in short thin lenticular veins ...between the planes and bedding of the killas. At Polberro the killas was traversed ...by numerous flat lodes, connected by strings. Many of the best had been worked ...separately, and the ground had gradually caved in. Much work had been done ...at Polberro by driving levels into the crushed and broken masses of rock. At Trevaunance, adjoining, the best of the ground had been removed by the old men, ...and the stuff lately stamped had not yielded more than a quarter per cent. of black ...tin. At Wheal Coates interlacing strings of tin ore traversed the killas in all directions for a width of 12 to 30 ft. south of a large lode, and produced about 1¼ per ...cent. Great Wheal Fortune was the very counterpart of Minear Downs, but the ...stuff that remained only produced 4 lbs. of tin to the ton, which could not be received at a profit. The quarry was traversed by an elvan dyke, and the veins died ...out on each side where they passed into it. The stockworks in granite were principally situated in the granite mass north of St. Austell, and comprised Carclaze, ...Carn Brea Rock, Rockhill, Cligga, Balmynheer, and St. Michael's Mount. At Carclaze numerous tin veins and strings intersected the granite. Carrigan afforded ...the best display of gneisen in the county of Cornwall. It was known for a width ...of 30 yards, a length of 100, and a depth of 30 yards, and was traversed by a number ...of chief leaders—quartz veins, with tin ore, schorl, gilbertite, and clay. When ...it was at a higher price this mass of gneisen and tin veins was stamped to the ...extent of 7,500 tons, yielding 64 tons of tin ore, at a produce of about 1¼ per cent. ...The gneisen was merely altered granite. Rock Hill yielded 6 to 8 lbs. of black ...tin per ton, but as the total cost of treatment was 5*s.* per ton this work could not ...pay at present prices. Cligga Head was a magnificent example of a stockwork, ...as it is here and at St. Michael's Mount the numerous tin veins which intersected the granite had walls of elvan. Stanniferous elvans were not uncommon in ...Carclaze hill, and occurred at Hobb's Hill, Belowda Hill, Castle-an-Dinas, Terras, ...Carn Brea, Rockhill, Rosewarne, Wheal Jennings, and the Poldory and Wherry Mines. ...They were only worked at present at Wheal Jennings, Gover, and Budnick.

MINES IN WENDRON.—Dr. FOSTER directed attention to the peculiarities of some of the mines in Wendron—Balmynheer, The ...Cowell, and South Wendron. The stanniferous rock in these mines ...he considered to be merely altered granite. They had not here the ...ordinary mineral veins—*i.e.*, open cracks filled with ores. ...But, according to his idea, the granite adjoining a fissure, or series ...of fissures, had been entirely changed from the action of solutions; ...the temperature, vapours, which forced their way up through these fissures from ...a deep seated source. These deposits differed from typical mineral veins in ...two very marked respects—1. They had no regular walls; the tin-bearing rock did ...not end off suddenly, but passed gradually into granite.—2. They showed no sign ...of a banded or ribboned structure due to the successive deposition of minerals. ...The distinction between filled up fissures and bands of altered rock, in connection ...with fissures, had hitherto been greatly overlooked, but it was a point deserving ...particular attention in examining the tin deposits of Cornwall.

THE GREAT FLAT LODE SOUTH OF REDRUTH AND CAMBORNE.—Dr. FOSTER also read a paper "On the Great Flat Lode South of ...Redruth and Camborne," which is worked on at various points for ...miles in several mines—Perseverance, Wheal Uny, South Carn ...Brea, West Wheal Basset, South Wheal Frances, West Wheal Frances, ...Wheal Condurrow, Wheal Grenville, and South Tolcarne. The distinctive features of the lode were—1. The invariable presence of a small leader generally only a few inches wide, occupying the space due to the shifting of the two ...walls of a comparatively flattish fissure, and filled, partly mechanically, partly chemically.—2. A lode or mass of stanniferous schorl, each averaging 1 to 3 per cent. ...of tin.—3. The tin was distributed in little grains in the rock, or in strings or veins. ...The tin was distributed in little grains in the rock, or in strings or veins. ...Neither of the lodes themselves consisting of schorl rock was a point which had ...never before been made known.—3. Schorl rock poor in tin ore, locally called capel ...or gossanwacke, separating the lode from the granite, and schorl rock with its constituent minerals arranged in layers separating the lode from the killas.—4. The ...central passage of the schorl rock (capel) into lode on one side, and into granite ...or killas on the other—in other words, absence of any wall between the capel and the granite or killas, and between the capel and the lode. Dr. Foster's view was that the lode and capel were merely altered rocks, the fissure now occupied by the leader having served to bring up vapour or solutions capable of entirely changing the rocks on both sides of it. If it was once admitted that the mass of the Great Flat Lode and its capel was an altered rock once containing felspar (of which Dr. Foster gave evidence), they were driven to conclude that that rock must have been granite, because of the gradual passage of the capel into granite, and if this view of the origin of the Great Flat Lode were correct, a similar explanation must be adopted in the case of many other important tin lodes in the county. As to the value of the lode, Wheal Uny, South Carn Brea, West Basset, South Condurrow, and Wheal Grenville in 1876 produced from this lode 1733 tons of black tin, or one-eighth of the total quantity of tin ore produced in the county.

There was a very interesting discussion on those last two papers of Dr. Foster's. The PRESIDENT of the Section (Mr. Pengelly) congratulated the members upon the fact that Dr. Foster having taken up his residence in Cornwall as Her Majesty's Inspector of Mines, had so ably devoted himself to working out the phenomena of the Cornish mines.——Mr. J. A. PHILLIPS expressed his approval of Dr. Foster's work.——Prof. MOISSENET, whose able work on Cornish lodes has just been translated and published by Mr. J. H. Collins, was called upon by the President to offer a few remarks, and was warmly received by the section. He addressed the meeting in excellent English, and referred to many points of interest in connection with the subject, but more particularly spoke of the banded structure of certain lodes.—Mr. SOPWITH alluded to the influence of the late Sir C. Lemon in promoting the study of lodes, and in founding a School of Mines. He believed that if Sir C. Lemon's scheme had been fully carried out they would now have been in possession of most important knowledge upon Cornish mining. He spoke in high terms of Dr. Foster's works.——Mr. COLLINS remarked upon the circulation of mineral waters now going on in mines. The fact that solutions of copper were so circulated was well known, and he gave evidence of the same fact as regards tin and lead.——Mr. D. BURNS described some of the lodes of the North of England, where, he said, lodes traversed alternations of limestone, sandstone, and shale; but the throw of these lodes was small. He believed that the lodes were filled under great hydrostatic pressure, and in all probability from below.

THE SERPENTINE OF DUPORTH.—Mr. J. H. COLLINS, F.G.S., read a paper "On the Serpentine of Duporth." At St. Mewan there is an intrusive hornblendic rock which may be traced to the coast at Duporth. On the way, however, it changes its character, physically (becoming coarser grained and porphyritic) and chemically, as it approaches the cliff, until at Duporth it becomes a serpentine. This serpentine is greenish-grey in colour, generally soft, often somewhat schistose, and decomposed near the surface. The less decomposed portions are of a darker green, full of greyish-white spots of a substance resembling kaolin, which, on examination, appears to be pseudomorphic of hornblende and felspar. The green serpentine is somewhat fibrous and sprinkled with crisms of scarcely altered felspar. The base and the included crystals of altered felspar are sprinkled pretty freely with crystals and grains of oxide of iron, and the whole rock is in places stained yellow or brown with peroxide. The district was one of great disturbance, and he had little doubt that the production of the serpentine was due to action of mineral solutions from below—in the same way that felspar had been altered into kaolin. If he were to guess he should say that fluoride of magnesium was the principal cause.

COAL IN THE ARCTIC REGIONS.—Mr. P. WILLS read an important paper in the Chemical Section "On the Composition of Arctic Coal." The paper stated that one of the results obtained by the late Arctic expedition was the discovery of a coal seam near to the winter quarters of the Discovery. The Discovery wintered in a bay on the west side of Robeson Channel, in latitude 81° 44′ north, and 65° 3′ west—now known as the Discovery Bay. About 2 miles from this place, in Grantland, this coal was found in the side of a narrow mountain gorge by Mr. Hart, the Rev. C. Hodson, Lieutenant Talford, and Dr. Coppinger. The prevailing rock of the surrounding district was a shingly claystone of very irregular arrangement, but mainly dipping to the westward, and, so far as could be ascertained, devoid of fossils. Vegetation included no less than 60 species of plants. Coal had been brought home by previous expeditions from high latitude, but not so far north. The coal (specimens of which were exhibited) has a bright shiny appearance, is somewhat of a pitchy character, and very brittle. On analysis it could not be distinguished from a bituminous coal of exceedingly good quality, and belongs to the true carboniferous period. It is very similar to coal found in some English coal fields, and particularly at Chesterfield. It contains 65 per cent. of coke. Mr. Wills had enquired of Dr. Coppinger as to whether it would in future expeditions be possible to utilise this coal. As it has only to be quarried, Dr. Coppinger was of opinion that it might. If ballooning were resorted to in future expeditions, the coal would be also useful for the manufacture of gas.

FLUID CARBONIC ACID IN ROCKS.—The committee appointed "for investigating the conditions under which liquid carbonic exists in rocks and minerals," reported that according to the method of determining the exact temperature at which carbonic acid in the cavities of rocks and minerals became gaseous, the temperature known as the "critical point," at which fluid carbonic acid was found, was 39·92° Centigrade. The acid was found to be contained in minute cavities of the rocks and minerals, and experiments had been tried upon sapphires, garnets, and other precious stones, and the result had been the discovery in these of carbonic acid. A curious fact had also been ascertained—*i.e.*, that certain bubbles in the fluid cavities approached heat, whilst others receded from it. The changes of the carbonic acid from gas to liquid and from liquid to gas were found to be produced by the heightening and lowering of the temperature, and in some of the cavities neither the gaseous or liquid form of the acid was to be found, the cavities being filled simply with water.

CHEMISTRY AND PRACTICAL METALLURGY.—Dr. ABEL (the President of the Chemical Section), in the course of his address, after referring to Mr Perkin, whose name had, from the very commencement of the history of coal-tar colours, been identified with their discovery, remarked that the iron and steel industry presented a great contrast to that of the artificial colours in regard to the extent of influence which the labours of purely scientific investigators had exerted upon its development. The attempts which had been made to unravel such problems as the true chemical constitution of steel, or the precise differences between the various combinations known as cast-iron and the conditions which determine their individual production or conversion from one to another, had hitherto been attended by results not at all proportionate to the patient experimental investigation of which, from time to time, they have been made the subject. The prosecution of purely scientific investigation might, therefore, of itself fail to bear direct fruit in regard to the development of new metallurgic achievements, or even to the elucidation of the comparatively complicated and numerous reactions which occur in furnaces, either simultaneously or in rapid and difficult and uncontrolable succession, between materials composed of a variety of constituents in variable proportions. There could, however, be no question regarding the important benefits which had accrued from the application of chemical knowledge to the study and the perfection of furnace operations by those who happily combine that knowledge with practical experience, and with the power of putting to the test of actual practice the results of reasoning upon an intelligent observation of the phenomena exhibited in such operations, and upon the data which chemical analysis has furnished. After dealing with a number of the different forms and combinations of the steel and iron as applied to various industries, and pointing out the close connection between chemical and physical research, the speaker concluded by impressing upon his audience the importance of the application of scientific research to the advancement of industry.

COMMERCIAL PHOSPHATES.—The committee appointed to enquire into "Commercial Phosphates and Potash Salts," in the course of their report reviewed the various methods recommended and tried for the discovery and precipitation of phospheric acid. The committee were inclined to think that the magnesium solution employed in precipitation should not greatly exceed that which was absolutely necessary. The report afterwards proceeded to detail the various methods and the best means of conducting experiments. With reference to the vexed question of reduced phosphates, the committee considered it proved that only such manures as contained iron are liable to "go back," and become insoluble, and that such a tendency to "go back" is due to the minerals. The report concluded by a reference to the processes capable of determining these reduced phosphates.

THE PREVENTION OF CORROSION.—Prof. BARFF read a paper "On the Formation of the Black Oxide of Iron on Iron Surfaces for the Prevention of Corrosion." The paper was very brief, but highly instructive, and was illustrated by various specimens of cast and other iron which had been experimented upon. At the commencement the Professor remarked that the decomposition of steel and iron by sufficiently high temperature had long been known to chemists, so that he could not lay claim to the discovery of it, although it had been attributed to him by some. The paper then proceeded to detail the experiments which the Professor had made for the prevention of corrosion by a steam superheater. One important result of the experiments was that different temperatures were found to have different effects upon the appearance of castings, a higher temperature producing a brighter surface. In conclusion, the Professor stated that he had several important experiments now in hand, but as yet he was unable to publish the results.——The PRESIDENT of the Section (Dr. Abel) read a note upon the same subject from Mr. Bower, which affirmed that, from the writer's experiments, he found that direct oxidation of the air produced in cast-iron a coating which is equal to superheated steam.——A brief discussion followed, in the course of which the PRESIDENT referred to present method of protecting or coating gun barrels, and to the important results which Prof. Barff's experiments would probably ultimately have upon such methods.

THE ACTION OF OILS ON COPPER.—A paper "On the Action of various Fatty Oils upon Copper," by WM. H. WATSON, F.C.S., gave in detail a number of experiments, showing the extent of which ten different oils act upon copper. The result of the experiments seemed to show that paraffin and castor have the least action upon copper, and that the action of sperm oil and seal oil is slight. Linseed, almond, olive, sesame, neatsfoot, and colza produced considerable action upon copper, linseed oil being most active. The author concluded from his experiments that the comparative action of different oils cannot be correctly decided in all cases simply from the appearance of the oils after exposure to copper plates, though minute quantities of the metal might be easily detected in most oils from the colour which is produced by such exposure.—An ASSOCIATE expressed gratification at the results of Mr. Watson's experiments, as they confirmed the results of his own. He felt that he should be quite competent, with the aid of what he had now learnt, to do that which he had long been attempting—to bring to a higher state of perfection oils for the purpose of lubrication.

BREAK-POWER ON RAILWAYS.—The address of the President of the Mechanical Section (Mr. Edward Woods, C.E.) dealt with the important question of the break-power on railways, into which, at the instance of the Royal Commission on Railways, he, with Col. Inglis, C.E., had conducted a series of important experiments.

COEFFICIENT OF STEEL.—Mr. W. H. BARLOW presented the report of the committee appointed, in conjunction with a committee of the Institute of Civil Engineers, to institute enquiries relative to the use of steel in railway structures, and determine what would be a proper "co-efficient" for adoption by the Board of Trade. The recommendation of the committee was that the strain on steel should not be allowed to exceed 6½ tons per square inch.

EXCURSION TO LEE MOOR.—One of the earliest excursions made was on Saturday, the 18th, to Lee Moor China-Clay Works, the property of the Messrs. Martin. These works, which are about five miles from Plympton, are the most extensive and complete in the world, and the Messrs. Martin not only kindly gave the visitors every facility for inspection, but Mr. W. Martin, whose country residence is at Lee Moor, entertained the whole party, to the number of 150, to a bountiful dinner in his grounds. The excursionists reached Lee Moor in vehicles from Plymouth. They included Professors Warington Smyth, Allman, Clarke (Chicago), De Hann (Leyden), Roberts, Adams, M. Moissenet, Col. Lane Fox, Mr. Woodward, Dr. Abel, Dr. Sclater, Mr. Charles Barry (President of the Institute of British Architects), and a number of other eminent men of this and foreign countries. Messrs. Martin's sett at Lee Moor is an extensive one, covering over 4000 acres. The works are about a mile distant from the stopes, and are of a remarkably imposing character. Huge terraces have been formed on the side of the hill, partly by excavation and partly by building, with great walls of granite blocks, so strong and so bold in outline that they look rather like works of fortification than portions of a peaceful business undertaking. Here are in succession the pits, tanks, and kilns by which the clay is extracted from the clay charged water flowing from the stopes, and from which it is sent direct by rail to the shipping wharves on the Laira. Pits and launders are all built of the bricks made by the firm, and everything is on the neatest, most complete, and most substantial plan. The quartz sand is got rid of, with a good deal of the mica, before the clay-carrying water reaches the terraces. A few figures will assist us to indicate the extent of the arrangements. There are two mica pits, each 150 ft. long by 50 ft. wide; twelve large circular deposit pits, about 50 ft. in diameter, each calculated to hold about 250 tons of clay, and supplying three enormous square tanks, whence the clay passes to the drying kilns, pits, and kilns. There are five drying kilns, which open along their entire course into the store linhay, where the blocks of clay are piled until they are loaded into the trucks for shipment, the tramway skirting the outer edge of the store for its entire length. Nothing could be more complete or economical than the entire arrangement, which has been carried out under the superintendence of Mr. W. Martin, according to his own plans. For some years past an undertaking has been in progress which will most materially increase the productiveness and economy of the works. In order to work the stopes to a lower level without pumping, a tunnel 386 fms. long has been driven to the clay bed. It was commenced on Jan. 14, 1869, and the men did not hole to surface until Jan. 14, 1876, so that the work took just seven years. This was a much longer time than was contemplated, some of the rock having turned out to be excessively hard. The tunnel has a fall of 3 in. per fathom, which will give a current of sufficient power not only to bring down clay and sand, but gravel and stones the size of a fist. All the softer portions of the tunnel are now being paved with granite blocks, over which the tunnel will be arched in brick. Brickwork will also be carried up to a sufficient height where the rock is harder—egg shape in section—so that there shall be no impediment whatever to the flow. When this is completed there will be practically hardly a limit to the capacity of development. The brick and tile works are on a very extensive scale, and are fitted with the best mechanism. Herein that part of the disintegrated granite which used to be thrown away is converted into a marketable commodity, of indispensable utility and great value alike for building and for fire-resisting purposes. The present output is about 20,000 tons of clay and 2,000,000 bricks annually.

LODE MINING IN THE WEST OF ENGLAND.—This a valuable practical paper by Mr. J. H. COLLINS, F.G.S. It dealt with what is known to English miners as "breaking ground," and to the French as "exploitation." Lode deposits were of extreme irregularity in quantity, quality, and position; and when all was so doubtful so large an expenditure could not be incurred in laying out the mine as might safely be incurred in a lead mine—the extent and value of which might be inferred with considerable accuracy beforehand. The metal miner had to feel his way step by step, and this fully and fairly accounted for the piecemeal character of the arrangements for working great metal mines as compared with that adopted for great coal mines. The mineral explorer in a new district especially looked for certain outward signs of mineral wealth. When a lode was found it might be driven upon in either direction until the explorer either was satisfied of its barrenness or that it was worthy of further exploration. If the appearances were favourable, and the ground flat, nothing further could be done without sinking a shaft and erecting some machinery for raising water from the workings. In many instances, however, it was possible to prove the lode at a moderate depth—from 5 to 50 fms.—by means of an adit level. If this adit level could be driven on the course of the lode it could test it over a considerable extent; but many adits were driven across the country. The cost of driving an adit varied from 3*l.* to 10*l.* or 12*l.* per fathom; occasionally when the ground was very hard as much as 50*l.* per fathom had to be paid. Of course, such a heavy cost would not be incurred in a mere speculative adit. The finest adit in Cornwall was that which drained the Gwennap mining district. It was driven nearly a century ago; with its branches it was nearly 40 miles long, and drained 30 square miles of country at a depth varying from 30 to 90 fms. If the adit was very large adit shafts would be required for ventilation; and in any case one or more shafts would be required for the proper working of the mine. The shafts were usually vertical for the first 20 to 40 fms., and after that were generally sunk on the course of the lode, but at right angles to its bearing—a few followed the lode in depth and bearing also. Downright shafts were sunk to any given depth at less cost and in less time, and offered greater facilities for pumping and hauling. This disadvantage was that a considerable amount of cross-cutting was required at the different levels. An underlie shaft afforded an opportunity of testing the lode in its immediate neighbourhood for its whole depth, and in some cases the ore got in sinking was sufficient to pay the whole cost. The best arrangement in an extensive mine was to have one downright shaft for pumping, another for hauling, and several secondary underlie shafts. In Cornwall shafts were usually rectangular, from 3 ft 5 ft. wide, and 4 to 14 ft. long. Save in the decomposed granite, timber was rarely used except locally, and tubbing was never used or required. The only instances of tubbing in the county, and they were few, were in alluvial deposits. The shafts were generally larger in hard than in soft ground, because there was less difficulty in sinking large shafts in hard ground than in soft. In consequence of the irregularity and uncertainty of the deposits, the Cornish practice of sinking many shafts, and using them more less exclusively for certain departments, had many advantages over the colliery practice of concentrating all the operations in one or two. There were few shafts which did not require support in some portions of their depth. This often consisted of rubble masonry, but still more frequently of Norway fir. The prices for sinking shafts in cubic fathoms were somewhere as follows:—Soft killas near the surface, 2*l.* to 3*l.* per fathom; below 20 fms., 3*l.* to 4*l.* Compact killas, or "pick and gad" ground:—Near the surface, 4*l.* to 6*l.*; below 20 fms., 8*l.* to 8*l.* Fair blasting ground:—Near the suface, 6*l.* to 20*l.*; below 20 fms., 10*l.* to 30*l.* In extreme cases 70*l.* to 80*l.*, and even more had been paid. In extensive mines if a new shaft was required at any point where underground working existed, it was not uncommon to work at it from several different points. Very accurate dialling was then required. From the principal shafts levels were driven right and left at distances of 10 to 12 fms., measured on the underlie of the lode. Sometimes these were driven in the lode; sometimes, when the lode was much harder than the country, by its side; 7 ft. by 5 ft. was a good size for a level in easy ground; in hard ground they were often 8 ft. by 6 ft. Small temporary levels in easy ground were often driven at 8*s.* to 12*s.* per lineal fathom. Ordinary levels cost about one-third less than shafts of equal area in non-blasting ground; one-half less in blasting ground. In very soft ground, such as decomposed granite, driving was often extremely hazardous, and the ground "ran." These runs were usually fitted up with furze or brushwood, against which the timber was firmly wedged. Great care and skill had frequently to be exercised in timbering, and sometimes the strongest timber was still too weak, and masonry had to be used. Cross-cuts were levels driven across the country either from one lode to another, or from an inclined lode to a vertical or less inclined shaft. Winzes were the small shafts between level and level sunk for temporary purposes only. In soft ground the pick and shovel sufficed for excavation. In pick-and-gad ground gads or small steel wedges were driven into the joints of the rock, so as to wedge it out piece by piece, the gad being driven by the head of the pick. In blasting ground holes had to be bored, to place which properly required considerable judgment. Anciently the ore was got out by means of underboard stopes, the men breaking away the ore beneath as they advanced along the level. A century since overhand stoping was introduced, and the men worked away the ground above their heads, which was much more efficient and economical. Stulls or stages were often put in across the lodes to enable the men to reach the ore face. The average cost of breaking the ore and selecting the stuff for the surface ranged from about 3*s* 6*d.* to 8*s.* per ton. The persons employed in the mines might be divided into four classes—first the managers or chief captains, often with the chief clerk or accountant, who formed a little parliament to discuss the affairs of the mine; second, the working agent's "owner's account" men (including the smith, carpenter, and enginemen), the boys and girls on the dressing-floors, and account-house woman; third, tutwork men; and fourth, tributers. The first-class were paid by salary, the second chiefly by the number of "items" they worked, the tutwork men according to the bargains they made for doing the underground work at per ton or per fathom, often working in partnership; the tributers at so much in 1*l.* on the value of the ore they raised. Tutwork bargains were usually for one month, sometimes two or three. By the unwritten law of the mines tributers were not removed from a pitch—the part of the mine were they worked—against their will, except for some very strong reason. Tools and materials were supplied to the tutwork and tribute men from the mine's stores, and charged against the men every monthly pay-day. In tribute bargains another charge was also made for hauling and dressing the ores. A great deal of judgment was required in regulating the proportions of these different kinds of work. Owners' account, where being paid day work, it was desirable to do away with as much as possible. Shafts, levels, and tramming were best done by tutwork; but in driving in ore ground it was often well to add to the price per fathom a proportion of the value of the ore. Stopes when large and even in quality were best dealt with by tutwork; when small or irregular tribute best. The discouragement of tributers had, no doubt, led to many valuable discoveries being missed. The best mining captains had generally been tributers. Among explosives, powder still held its own; but dynamite should be used much more extensively, and the restrictions which were put upon it should be removed. The time could not be far distant when all lode mining in hard ground would be largely effected by means of boring machines. Cornwall had been exposed to great competition of late in the production of tin; but her position and advantages would in the long run, perhaps for centuries, enable her to hold her own against all comers.

UNDERGROUND TEMPERATURE.—Prof. EVERETT read the report of the committee "On Underground Temperature." The observations conducted under the auspices of this committee were intended to determine the rate at which temperature increases as we go deeper into the earth. They were sometimes made by self-registering thermometers into deep bores or artesian wells, sometimes by placing thermometers in holes bored in mining galleries, leaving the thermometers there for a considerable time, and then taking them out and reading them. The con-

tributions the committee had to make this year were from three different places. Observations on a very elaborate scale had been received from the important mining district of Schemnitz, in Hungary. A request for observations was sent in 1873 to the Imperial School of Forests and Mines, and a committee was formed. Dr. Otto Schwartz, Professor or Physics and Mathematics, undertook the leading part in the work of the committee. His observations gave the following results: No. 1 shaft, an increase of 1° Fahr. for every 89·5 ft.; No. 2, 1° for 72 ft.; No. 3, 1° for 64·2 ft.; No. 4, 1° for 55·2 ft.; No. 5, 1° for 93·2, showing a mean increase of 1° for every 75·5 ft. The best mode of combining these results was to compare the sum of the depths with the sum of the increments of temperature. Thus they had a total increase of 38·3° centigrade in 1587 metres, at the rate of 1° centigrade in 41·4 metres, or 1° Fahr. in 75·5 ft. comparing the deepest with the shallowest temperatures (as a check on the assumed earth temperature) it was found that the mean increase was as 1° in 72·5 ft. The mean of the two results was 1° in 74 ft. The rocks consisted for the most part of trachyte and greenstone. Thanks were due to M. Antoine Peck, ministerial counsellor and director of the mines, and to Herr Ed. Pörchl, director of the school for energetic co-operation, in this extensive and valuable series of observations. The next series of observations were made by Mr. Matthew Heckels, manager of Boldon Colliery, near Newcastle, in holes bored upwards to a distance of 10 ft. from some of the deepest seams. The mine was perfectly dry, and where the observations were made free from currents of air. The results of these observations was an increase of 30° Fahr. for a depth of 1514 ft., at the rate of 1° in 49 ft. The conditions under which they were made rendered them extremely valuable. Observations had been also received for the first time from India. They were taken by Mr. H. B. Medlicott, M. A., of the Geological Survey, in bores made in search of coal, at places called Khappa, Manegaon, and Moran, and have been published by him in the "Records of the Geological Survey of India," vol. x. Only the observations at Manegaon were entirely satisfactory. It was apparent from these that the influence of excessive summer heat reached to a considerable depth. The increase from 65 ft. downward was remarkably uniform, and the whole increase from this depth to the lowest reached was 3·7°; at the rate of 1° Fahr. for 68 ft.

A New Unit of Light for Photometry.—Mr. A. Vernon Harcourt, M.A., F.R.S., read a paper "On the Application of a New Unit of Light to the Examination of Coal Gas." After pointing out the variations to which the unit of light now in use—a sperm candle burning 120 grains of sperm per hour—is liable, and the irrelevance for the purpose of estimating the value of illuminating gas of tests affected by any other portions of the force radiating from a flame besides those which produce vision, the author explained the application of the new unit of light, which he exhibited on Friday to Section A., to the examination of coal gas. By making a mixture in a small gasholder of pentane, the most volatile spirit from American petroleum, with ordinary air, in the proportion of one of the liquid to 600 of air, or 7 of the vapour to 20 of air, he prepared a gas which was scarcely at all soluble in water, and was permanent at ordinary temperatures and pressures. This gas was burnt at a pair of burners, corresponding to the two candles commonly used in photometry, each consisting of a brass tube surmounted by a plate through which the standard gas issued at the rate of half a cubic foot per hour through an opening ¼ in. across. The illuminating power of the gas and the rate of burning were so adjusted that each burner gave the average light of one candle. Photometric results obtained with the same sample of coal gas showed that successive observations made with standard gas gave closely corresponding results.——Prof. McLeod expressed his approval of the proposed unit of light, and suggested that it might perhaps serve the purpose of measuring daylight.——Capt. Abney spoke of the difficulty of using for the measurement of daylight anything but white light, and of the desirability of finding a unit of white light for this purpose.——Prof. Adams remarked that white light was difficult to obtain, but that it would be serviceable for the purpose the author had in view, of measuring the illuminating power of coal gas. The actual unit must have the advantage of resembling in colour the light of coal gas. He had experienced the difficulty of comparing light where the colour differed. With reference to the apparatus shown, he conceived that the brass tube becoming gradually heated would affect the gas passing through it; and that this might affect the illuminating power. He considered the Bunsen photometer defective, in that the two eyes might differ in their estimate of the intensity of the light; and that the distance between the flames of the two candles must affect the result. He believed that the effect of light upon selenium furnished a more definite measure of illuminating power if selenium, which had been exposed to light, differed from that which had been kept in the dark. Comparing with the same selenium element two different lights, he found that the action varied directly as the square root of the illuminating power.——Dr. Wright thought it possible that the lighter part of the petroleum might contain ethylene compound, the presence of which would alter the illuminating power of the standard gas. He was also of opinion that india-rubber connections were objectionable, as affecting the hydrocarbons.——Dr. Odling considered the selenium photometer too delicate an instrument for such rough work as the photometer of coal gas. The reason for employing two candles had been the importance of getting an average result. He agreed that with candles the greatest variety might exist in the estimation of the illuminating power of the same sample of coal gas. He had no hesitation, however, in saying that the standard light shown to the section was the best unit light which had been hitherto proposed.

Elevated and Suspended Railways.—Captain D. Galton, giving a description of the elevated railway in New York, remarked that it was always difficult to provide means of rapid transit through streets in which the traffic was large. Such transit by steam could only be secured by separation from the ordinary street traffic, and in the northern district of New York the difficulty had been met by an elevated railway. The line was fixed upon Phœnix columns 9 in. in diameter, having spaces from 26 ft. to 30½ ft. long on the axis and the roadway, and carrying two pairs of rolled deck, or "I" beams of shallow depth, one pair under each rail. The columns were so placed that they formed a line of separation between the horse cars, wagons, and people in the street, thus lessening the risk of those collisions and accidents which formerly happened. The tracks covered but a small portion of the streets overhead, were entirely out of the way, and did not interfere with business. A car moving at full speed could be brought to a standstill within a distance barely exceeding its own length, by means of an atmospheric brake. The line was very economical compared with an underground railway, the total cost per mile being only 55,000*l*. It was comparatively free from danger, and was easy of access, while the locomotive was noiseless, and did not appear to frighten horses. True, it passed in front of the houses, but this was not important in broad thoroughfares, and on the whole the elevated railway was more free from objection than any other form of road for rapid transit in towns.

Mr. G. Stevenson (of Wantage) explained a design for a new safety suspension tramway. He observed that the introduction of railways had also led to tramway traction, both in country districts and the streets of large towns. While railways had, as a general rule, been worked by steam-power, tramways had, for the most part, been worked by horse-power, as it was not until the session of 1876 that the use of steam on tramways was sanctioned by the Government, and then only on two lines—at Wantage, and in the Vale of Clyde, Glasgow. After a year's experience on these lines the Government introduced a bill to permit the use of steam on other tramways under certain restrictions. The system of constructing tramways hitherto adopted had been to lay the rails in a similar manner to ordinary railways; but although the system had in most cases been highly successful, its general adoption was beset with difficulties, which in his opinion could only be overcome by the suspension principle. His proposed mode of construction consisted in the formation of a line of rails suspended from the vertical bracketed columns, or from brackets projecting from buildings or archways, the columns, brackets, and bearings to be placed at convenient distances from each other along the outer edge of the pavements in streets, or by the side of the highways. The great dissimilarity of the invention from ordinary railways on street tramways was in the particular formation of the permanent way, which would be supported by clip suspension. The cost would not exceed 3000*l*. per mile.

The President said that some years ago a deputation from New York examined the underground railway in London, and came to the conclusion that a similar mode of transit would not be suitable for the American metropolis. The elevated railway was adopted as a substitute, and he was glad to learn that its operations had so far been satisfactory.

Excursion to Devon Great Consols.—Upwards of 350 members and Associates took part, on Thursday, in the excursion to Devon Great Consols, being conveyed up the River Tamar by the steamer Ariel up to Morwellham, the place of shipment for the ores produced by the mines. The ores are brought to this place by a locomotive engine travelling over a railway 5 miles in length, at a high level, terminating in an incline of a very steep gradient, worked by wire-rope and stationary engine. The excursionists were conducted by a short but interesting walk through the woods to the high level, and from the stationary engine were conveyed by rail to the mines, passing through some of the most romantic scenery, full of interest not only to the geologist and naturalist, but also to the lover of fine arts. Far below is the Tamar, winding its course between the counties of Devon and Cornwall. At Weir Head the beauties of nature are contrasted by the evidences of industrial occupation in the shape of brickworks, while copper and tin mines are scattered around. On the Cornish side, at some elevation on the side of the precipitous hill is the growing village of Gunnislake, with chemical works adjacent, and the extensive noteworthy quarries of the Gunnislake Granite Company. The train, passing on through the richly-wooded country, conveyed the excursionists to the terminus at the arsenic works. The Devon Consols are near New Bridge, in Devonshire, about 5 miles from Tavistock, extending from the banks of the Tamar eastward about 2½ miles, and about ½ in width. They are worked in killas or clay-slate, near the junction of the granite. The mines were first worked to a limited extent without success. Operations were resumed in August, 1844. At the end of the first year dividends had been paid out of profits to the amount of upwards of 13,000*l*.; and before the end of the second year 17,000 tons of ore had been raised, and sold for 120,000*l*. Up to April 20, 1877, the mines cost amounted 1,528,531*l*. 6s. 11d. Copper ores had been sold—609,280 tons value 3,221,426*l*.; and arsenic about 15,000 tons. Total dividends paid 1,195,520*l*., and dues to the Lord of the Manor about 240,000*l*. These important results have been obtained by surface works covering an area of 140 acres, including 7 acres occupied by the arsenic works. The surface works consist principally of dressing floors for preparing the ores, steam-engines and water-wheels for pumping water, lifting ores to surface, and for crushing and preparing them for the market. There are five large water-wheels worked by the River Tamar, two of which are 40 ft. in diameter and 12 ft. breast; these together pump up many thousand gallons per minute on an average of 300 ft. perpendicular height. The water is used for dressing purposes, and for moving other water-wheels on its way back to the river. The lests carrying water are 8 miles in length. There are besides nine powerful steam-engines and two locomotives. The underground works are reached by 18 shafts, through which the miners travel to their work by footways, and by two man-engines. The greatest depth attained is 1740 ft. The levels and adits are nearly 40 miles long, traversed by 6 miles of tramway. There are extensive precipitate works for obtaining copper from the water pumped out of the mine, in which it is found in the four to seven grains per gallon. Although this quantity may appear to be small, many tons of metallic copper are obtained annually. For the provision of tools and the maintenance of plant there is a foundry and fitting shop, provided with lathes, punching, shearing, and screwing machines, steam-hammer, &c. The present monthly sale of copper ores is about 900 tons, and of arsenic about 200 tons. The number of persons employed is 800 men and women, boys and girls. The party were most heartily welcomed on the mine, and had the advantage as scientific cicerone of Dr. Robert Oxland.

Excursion to Phœnix, Caradon, and the Cheesewing.—The excursion on Thursday to the Caradon and Cheesewing district was most enjoyable, and full of interest to the scientific visitors. The party, which included many scientific notables, left Plymouth by special train, and were received at the Liskeard Station by the Mayor and a number of the leading inhabitants. They were then conveyed to the Moorswater Station of the Liskeard and Caradon Railway, and taken to the Caradon Moors in trucks which had been fitted for the purpose. At Phœnix Mine the party were met by Mr Warington Smyth, F.R.S., who acted as scientific cicerone to the company. He pointed out the enormous extent of the riches, and explained the wonderful character of the Phœnix lode. It had been said by some that the riches of Cornwall were exhausted; nothing could be further from the fact, and all round Phœnix there were lodes which had been worked upon by the old men, but had been untouched for generations; and which were as full of promise as either the South Caradon or Phœnix setts. At the Phœnix account-house the party were welcomed by Mr. West, the chief adventurer, and repasted with sherry and biscuits. The floors were then inspected under the guidance of Mr. Warington Smyth. They are exceedingly interesting, and are among the best laid out in the county. From the Phœnix the company called to the Cheesewing, that marvellously grotesque pile of granite rock, perched on the brow of a hill which commands one of the finest views in Cornwall. At the Cheesewing also the granite quarries of Messrs. Freeman, which are among the finest in the county, were inspected. Cornish granite has found its way to every part of the world, and the Messrs. Freeman have the most extensive granite works in the kingdom. From the Cheesewing the party walked over the Moors by the Hurlers to South Caradon—that wonderful copper mine which has paid dividends uninterruptedly for 40 years, and which, at the copper prices of three years ago, would now be making nearly 20,000*l*. a-year profit. Here the company were entertained at luncheon, under the presidency of the Mayor, and a very pleasant afternoon was passed. The day was delightful, and the excursion was declared one of the most enjoyable ever held in connection with the Association. There were ladies and gentlemen present from every part of the United Kingdom, with representatives of the Association from France, Germany, and America.

EBERHARDT AND AURORA—SPECIAL REPORT.

July 27.—North Aurora Mine: My weekly reports and regular accounts forwarded have given the board the main features of our operations and progress. Our drivings for ore at all our prospecting points are being vigorously pushed forward. The board's earnest suggestions that every streak of ore in the old workings and every available pound be broken is receiving my decided attention. The ore rock broken and hoisted last winter and spring is now mostly assorted, and as shown by my last weekly report we have 320 tons of ore on the mine dump, and have four men still prospecting and breaking whatever of ore can be found. But I cannot say there is any showing of much promise at any point of our upper workings.

Incline: I am, therefore, vigorously pushing down with the incline and drifting for the purpose of finding ore if possible. The main incline on Saturday, the 21st instant, had reached a depth of 1018 ft. from the bottom of the central shaft, or (including the shaft 287 ft.) 1305 ft. from surface. In page 5 of my No. 265 I fully stated the general situation of affairs, and position of the footwall of the ledge as related to the incline. Our cross-cutting east at that time had developed the fact that on the 1000 ft. level the wall was distant east 60 ft., and distant on the 1100 ft level 45 ft. Our further prospecting east on the 1000 ft. level has developed no pay ore, our driving having reached east of the wall 9 ft. into the ledge matter and east limerock, with no encouraging prospects. Work at this point is now suspended. Comparing the distance of the wall from the incline as found on our 1000 ft. and 1100 ft. levels, showing in the 1100 ft. that the wall was converging towards the incline again, I did hope that in our 1200 ft. cross-cut east we should find the wall still nearer, but the fact now demonstrated is that the wall upon the 1200 ft level is distant from the incline 70 ft.—10 ft. more than upon the 1000 ft. level. Such being the case I last week commenced changing the course of the incline, and shall gradually bring it from its angle of 52° to a less angle until the wall is reached. We thereby hope to eventually bring the incline and wall together again. The change must be gradual, in order not to interfere with the running of the car. By means of the board partition extending down the incline the circulation of air continues excellent. No water interferes with our workings. It is unfortunate to be sinking in the west lime as we are, for it does not continuously prospect the ledge as it would if we were following down the wall, or even a little east of it; and, again, our present sinking is in very hard rock.

The 1200 ft. cross-cut is now 8 ft. beyond the wall, in low grade ledge matter, but no pay ore. We deem it best not to commence another cross-cut until the incline is down to 1350 ft. Sinking is progressing at the rate of 10 to 12 ft. per week. In our 750 ft. level work is continued. We have drifted north upon the wall 77 ft., and unmistakably encountered the same displacement of the ledge that we found upon the 300 ft. level, where we had to cross-cut east 90 ft. before reaching the displaced wall. The break upon this 750 ft. level is quite as well defined. The last 8 or 10 ft. of our driving north is very loose and broken, which brought us against solid lime. At this point I have commenced a cross-cut east, following in the break, to determine the extent of the movement at this depth. The indications upon this level, as shown along our drift north, were very favourable for ore, and when the displaced wall is reached again prospecting will be followed if the showing continues favourable. As the ground along the break is easily worked good headway in the cross-cut is being made—12 ft. are already run. The general outlook in the mine for immediately finding ore is not so promising as we could wish, but I believe all is being done that possibly can be for the development of ore, and my faith that it will eventually be reached is undiminished. I, therefore, feel that if the patience of the company fails not our hopes will be realised.—Eberhardt Mine: The depth of the Bluebell shaft is 200 ft. From the bottom of the same our south drift is progressing at the rate of 10 and 12 ft. per week; total distance on the 21st inst., 86 ft. I stated in my No. 265 the object of this work. Although the entire length of the drift is in ledge matter, quite favourable for ore, and run along a spar wall, altogether assuring me that we are in the main ore channel, yet I regret to say we have not struck pay ore. As one important object of running the drift is now gained—the position of the ore channel, the dip of the wall and the charocter of the ground—I shall not, unless ore is soon developed, continue the drift but a short distance further.

Eberhardt and Aurora Tunnel: Length of tunnel made as follows:—To Dec. 31, 76,525 ft.; cost of same, $15,446·17, or per linear foot, $29·42.; during the half-year ending June 30, 815 ft.; cost of same, $30,103·61, or per linear foot, $36·93; total length of tunnel June 30, 1340 ft.; cost of same, $45,549 78, or per linear foot, $33·99. The tunnel works to June 30, costs, &c., were valued at $19,000. Included in the plant are, the water tank and pipes to the mouth of the tunnel, the engine for repair work (formerly the tramway engine), the air drills, electric battery, and leading wires. The cost of all completed track, including T rails, and cost of all water-pipes and air-pipe leading in from the mouth of the tunnel, and the cost of all lumber that forms the air-flue, is charged into the running expense of the tunnel to June 30, therefore, included in the foregoing statement of tunnel costs. The expense of running the tunnel has thus far exceeded my calculation, and over reached my estimate to the company—namely, $25 per linear foot. But this is not news to the board, for my frequent letters and regular accounts forwarded show progress and the true condition of affairs. This excess of cost above my estimate has perplexed me exceedingly and prodigiously puzzled me in all my efforts for an improvement. The average ground through which the tunnel has passed has been hard, but has broken fairly. There is no likelihood we will ever encounter rock harder or tougher; but the chief drawback to our efforts has been the lack of ventilation, two much time of the men and drills being lost after each blasting in driving back the smoke so that the men could resume work, for the full current of air from the compressor proved to be quite insufficient to expel the smoke readily. Even when driven back from the immediate face the fumes have hung in the tunnel something like the fog in the streets of London. The excellent ventilation obtained in our incline by means of the board partition led us to hope that the same appliance in the tunnel, forming a flue along the back of the tunnel, might serve our purpose and thus obviate the expense of any air-shaft or blower. The flue has worked fairly, but not quickly enough, the air circulating through it almost imperceptibly as compared with the current produced in the incline. To incur the loss of as little time as possible, men have been pressed to their work before the smoke and fumes were properly expelled, and many headaches and other sicknesses have been the result, thereby some of my best workmen have felt compelled to leave our employ. With all our efforts to avoid it, as the length of the tunnel has increased the fact has become more and more impressed upon us that better ventilation might be had, and the sooner the better. I have, therefore, purchased, and now have in complete operation, a No. 5 Baker's Rotary Pressure Blower. It can be practically and safely run at 111 revolutions per minute. It has a capacity at a 100 revolutions per minute of displacing 2500 cubic feet of air per minute.

This is our first full week with its use, and the gain in several respects is almost surprising: the increased number of feet driven will be shown in my weekly report. We now have a current of air that enables the men to hasten to their work at once, soon as the blasts are fired, and in an almost incredibly short time the smoke is seen issuing from the tunnel's mouth. I now feel sure of thorough ventilation that will continue with us. For an air-pipe leading from blower into the face of the tunnel I have taken up 2037 feet of 12-in. pipe from the line of the White Pine Waterworks, and am putting in its place the same length of 3-in. pipe. The 3-in. pipe will answer all purposes of the White Pine Waterworks till White Pine assumes new life from the discovery of new ore in our mines. This change of pipe has necessitated the purchase of only 1306 ft. of new 3-in. pipe; by taking up and changing a portion of the line of 3-in. pipe that forms a junction with the Treasure Hill line (and leads into Hamilton's) so as to connect the Hamilton line with the Treasure Hill line at another point (thereby shortening the Hamilton line) I have obtained 3-in. pipe, 731 ft.; this being added to the 1306 ft. new 3-in. pipe makes the 2037 ft. of 3-in. pipe substituted for the 12-in. taken up, and makes the whole line complete again. As will now be seen, this change of pipe affects only the line running to Hamilton and Treasure city, thus leaving the main leading to Eberhardt intact. This substitution of 3-in. pipe for the 12-in. not only gives us the 12-in. pipe to use in the tunnel, but for all purposes present or in the near future it is a decided advantage to the waterworks, for the reason that during all our cold and freezing weather at every time of pumping water to Treasure Hill (or even to Hamilton) the 12-in. pipe (as well as all other sizes) had to be thoroughly drained to present freezing and bursting, and the cost of pumping this water (so drained at each pumping) was a waste and dead loss. The liquid contents of 2037 ft. 12-in. pipe is 11,967 gallons; the liquid contents of 2037 ft. 3-in. pipe is 748 gallons: difference, 11,219 gallons. Hence the obvious advantage to the waterworks in favour of the 3-in. pipe now being laid. The 12-in. pipe thus obtained for the tunnel was, when new, coated inside and out with asphaltum, which has wonderfully preserved it from rust. This pipe not only admirably serves our present requirements for conveying air from the blower, but it will serve all purposes for air from any sized compressor our future operations may need.

The blower is a very compact machine that weighs 4500 lbs., and cost delivered at the works about $1100; voucher for same will be forwarded with my July accounts. The daily cost of running the blower is merely nominal. It is run by the little tramway engine, which is more than amply sufficient for all running of the repair machinery. I am continuing to fire our blast with fuse and cap, and only a portion of the face at one firing, and probably will do so a week or two longer. I shall then give the electric firing another test, by firing the full face of holes simultaneously. I have not used the battery since I last wrote, but I now feel that we have now commenced a new era of progress in the tunnel, no doubt not my weekly reports will confirm it a reality, and our monthly results of accounts show a much reduced rate per foot. Everything about the work is running smoothly and well. The drill machines, however, need some overhauling and renovating, more than can be given them while in daily use. I doubt if we shall be pleased when the new drills arrive. The last I heard of them was in your letter of their shipment on June 21. It is now time they had arrived. I have some fears they are among freight intercepted by the railroad strikers, as we now are intercepting most of the trunk lines coming west. As shown by the supply sheet the board will please observe that our supply of wood at Tunnel June 30 was 571 cords, all of which is paid for.

Eberhardt and Aurora Mill: Some customs ore is now being delivered at the mill from the Stafford Mines. The arrangement is that at least 500 tons should be furnished, which I have agreed to work for $13 coin per ton, and the owners take the bullion clean up, no percentage whatever being guaranteed. Our own ore on the mine dump, and being assorted at North Aurora Mine, will also be hauled and milled during the run. I do not think the amount of our ore will exceed 500 tons. I shall start the mill as soon as the quality of the ore delivered warrant. The mill will be started up in much the condition it was when we shut down last January, for I purpose to expend upon it the least possible to put it in decently running order.

Finance: The plain statement of the company's funds, as contained in Nos. 158, 160, and 161, dated respectively May 10 and June 9 and 16, taken with our past monthly expenditures and progress, is indeed a very serious matter, but one that I very keenly feel, so much so that I deeply realise that the discovery of new bodies of ore is of the utmost vital importance, and I would most respectfully assure the board that my energies and the resources of the company to the best of my ability are directed accordingly. I most willingly make all our operations subordinate to the one main end, so important and desirable—the finding of ore. My office staff and expense I shall continue as small as possible, I feel the imperative necessity of the most rigid economy, and it is my aim to practise it in every department.—Frank Drake, Manager.

WATSON BROTHERS' MINING CIRCULAR

Ten years ago the weekly information which had previously been published for a great number of years in Watson Brothers' Mining Circular was transferred to the columns of the *Mining Journal*, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clement Mine.

The great extension of mining business, the difficulty so often complained by country shareholders in getting accurate and disinterested information of the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. Watson Brothers to extend their Circular now published in the *Mining Journal* more extensively than they at first intended to state—

That they issue daily to clients and others who apply for it a Price List (supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o'clock.

They also buy and sell shares for immediate cash or for the usual forward settlement in all Mines dealt in on the Mining and Stock Exchanges, at the market prices of the day, free of all charges for commission. They deal also on the same terms, in the Public Funds, Railways, Telegraphs, and all other securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

In the year 1843, when mining was almost unknown to the general attention was first called to its advantages, when properly conducted, by the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. Watson, F.G.S., author of "Gleanings among Mines and Minerals," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. Watson was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. Watson Brothers have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest experienced advice in regard to mines and sharedealing than there is at present, and from the lengthened experience of Messrs. Watson Brothers they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining district, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

WATSON BROTHERS,

MINEOWNERS, STOCK AND SHARE DEALERS,

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

Tin Mines.—If "Thomas Miner," who refers in the West Briton to some of our remarks in the *Mining Journal* of July 7 (and which were quoted in the West Briton of Aug. 6), will read our article again, he will find that he has somewhat mistaken the drift of our remarks, which were chiefly directed to the low price of tin, and the *heavy debts which had been allowed to accumulate* in some of the old and expensively worked tin mines of Cornwall. Those we referred to have been "holding their own" simply by keeping back several months' costs and allowing debts to accumulate, which must be ruinous in the end, and tend sooner or later to lessen the production of tin, and thus increase its price; and then we thought that still think) shallow and inexpensively worked tin mines would become good investments. If "Thomas Miner" considers that mines are confined to the district around Carn Brea Hill he must be the "Ancient Miner" who, even fifty years ago, held fast to the faith of the "last century" that copper mines were confined to the East.

If the depression to which an "Old Correspondent" calls our attention were confined to mining securities we should think more of it than we do, but it is *general*, and illustrates the old adage—

"When things are high, the public buy;
When things are low, they let them go."

In other words, the public buy when they should sell, and sell when they should buy.

There are many things which bid fair to rise 50 or 100 per cent in the next 12 months upon their own merits alone, but it would be useless to recommend or to name them in the present apathetic state of the public mind. As to when there will be peace who can tell? It may be a long way off, or it may be nearer than any one suspect. Let us hope it may, for there would be a great start in all kinds of securities, and a general revival of trade. As for money, all the stock in England would scarcely fill up the gaps made by the havoc of war.

Saturday, Aug. 18.—The following are quotations for the day. Devon Consols, 3¾ to 4; Dolcoath, 22 to 24; East Van, 5 to 5½; Glenroy Lead, 1 to 1½; Great Laxey, 20 to 21; Herodsfoot, 4½ to 5; Ladywell, ⅞ to 1; Leadhills, 5 to 5½; North Laxey, 15s. to 17s.; Parys Mountain, 8s. to 10s.; Roman Gravels, 9½ to 9¾; Rookhope Lead, 19s. to 21s.; South Condurrow, 7 to 7½; Tankerville, 6¾ to 7¼; Tincroft, 10 to 12; Van, 32 to 34; West Chiverton, 12 to 13; Tolgus, 69 to 71; Crebor, 1¼ to 1¾; Grenville, 30s. to 35s.; Derwent, 2¼ to 2½.

Monday, Aug. 20.—Market continues very inactive, and prices generally merely nominal. Van, 32 to 34; West Tolgus, 68 to 70; Great Laxey, 20 to 21; Roman Gravels, 9¼ to 9¾; North Laxey, 15s. to 17s. 6d.; Rookhope Lead, 19s. to 21s.; Parys Mountain, 8s. to 10s.; Tankerville, 6¾ to 7¼; Richmond, 3¾ to 4.

Tuesday, Aug. 21.—Market again quiet; and prices are about the same as yesterday.

Wednesday, Aug. 22.—The chief feature to-day has been a rise in West Van, and shares close firm at 72 to 74. Dolcoath, 22 to 24; East Van, 5 to 5¼; Tankerville, 6¾ to 7; Penstruthal, 5s. to 7s.; Leadhills, 5¼ to 6; Glenroy Lead, 1 to 1½; Great Laxey, 20 to 21; Rookhope Lead, 19s. to 21s.; Roman Gravels, 9¼ to 9¾; Tincroft, 1 to 11; Van, 32 to 34; Parys Mountain, 8s. to 10s.; North Laxey, 15s. to 17s. 6d.; Grenville, 30s. to 35s.; Richmond, 5¼ to 6¼; Richmond, which receded to 4*l*., sellers.

Thursday, Aug. 23.—There is very little change in prices to-day, except in Mountain, 8s. to 10s., and firm; West Tolgus, 72 to 74, and scarce; Devon Consols, 3¾ to 4; East Van, weaker, at 4¾ to 5¼; Glenroy Lead, 1 to 1½; Great Laxey, 20 to 21; North Laxey, 15s. to 17s.; Roman Gravels, 9¼ to 9¾; Rookhope Lead, 18s. to 20s.; Van, 31 to 33; Tankerville, 6¾ to 6¼; Leadhills, 5¼ to 6; Ladywell, ⅞ to 1⅛; Eberhardt, 5¼ to 5¼; Richmond, 4 to 4½.

Cwm Llanarch Silver-Lead Mining Company (Carnarvonshire) consists of 6500 shares of 2*l*. each, and fully paid up. The property is most favourably reported on by Capt. Knebone; and judging from the copy of the Ordnance Map issued to the shareholders, its position is most favourable. The Messrs Watson Brothers, a very experienced mining firm, has taken up the Clementina and the D'Eresby Mountain Mines, standing to the east of the Aberllyn Mine, and upon the same lodes. The lodes of the Llanarch, now selling at a quoted value of 100,000*l*., pass into the Cwm Llanarch, together with the lodes of the three other mines, and are intersected by two, if not three, north and south lodes. There are numerous intersections, and already from shallow operations on the western part of the company's ground some 2500*l*. to 3000*l*. worth of ores have been raised. The configuration of the surface is favourable for economical mining, the hill rising rapidly in

...ion of Llanrwst some 700 to 800 ft. The possession of the ... Llanarch would prove of first importance to the Llanrwst ..., as the extension of the adit through the level ground between ... two mines would unwater the latter at a depth of some 750 to ... ft., and thus do away with the necessity of pumping ma... ...ery. This is an oversight of Mr. Endean's, and past repairing, ... there is evidently scope for profitable mining for all parties in... ...ted in the district; and so far as Cwm Llanarch is concerned, ... whole capital is represented to be subscribed.

...E SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

...ring the past week the market has been steady, without any ...rovement in the amount of business transacted. There is, in... ...no decided disposition either to sell or to buy, and it is ...able prices generally have now touched points that will not be ...ch altered from until that recovery sets in—it may be sooner or ..., which has been so long awaited, when buoyancy will be as remarkable as ...rasity now. In shares of iron and coal concerns Bolckow, Vaughan, A, and ...th Australian have each advanced 2s. 6d.; Monkland, 1s. 6d.; and Scottish ...ion (new), 1s. 3d.; while Lochore and Capledrne are 2s. 6d. lower. Omoa ...Cleland shares are now dealt in at 6l., full paid. The report submitted at the ...ing of the Mersey Steel and Iron Company showed no dividend could be ...e owing to the great competition in the steel trade, the past year's opera... ...had resulted in a loss of 13,761l. Andrew Knowles and Sons have advanced ...prem.: Bolckow, Vaughan, A, is 55½; ditto, B, 36¼; Bilbao, 19¼; Cardiff ...Bearesses, 18s. to 23s.; Chapel House, 45s. to 55s.; Darlington Iron, 12½ dis.; ...Vale, 8 to 9; Henry Briggs, A, 13½; ditto, B, 7½; John Bagnall and Sons, ...Dyvi, Tondu, and Ogmore, 7½; Nant-y-glo and Blaina (deffered), 30s.; ...of England, 61s. 6d.; Norwegian Titanic, 40; New Sharlston (preference), ...Oakham, 1s.; Omoa and Cleland, 30s.; Park Gate, 9 dis.; Pelsall, 11¼ ...Scottish Australian, 35s. to 40s.; ditto (new), 6s. to 8s.; Skerne, 5½ to 6½; ...bridge, 7½ dis.; Tredegar, A, 11; Tunbridge, 9; West Mostyn (deferred), ...bridge, 7½ dis.; Tredegar, A, 11; Tunbridge, 9; West Mostyn (deferred), ...Helwick, 6 per cent. (preference), 10½.

...shares of foreign copper concerns, Rio Tinto 5 per cent. have advanced ...ditto 7 per cent., 11s. 3d.; and Cape 7s. 6d.; while Rio Tinto shares are ...and 6s., Thursls 3s. 9d., and Huntington 2s. Frontenac Lean are at 7s. 6d. ...Tharsis have apparently been sold at 24⅜ in London, ...per cent., 56½. Yorke Pen... ...is a price not warranted by the dealings in the local markets. ...(ordinary) are neglected, but the 15 per cent. (pref.) is offered 3s. 9d. cheaper, ...4d. Shares of home mines are very quiet. A few of the Bampfylde deben... ...are still being offered for public subscription. Glasgow Caradon have been ...a trifling reduction of 3d. per share. Leadhills firm at 5⅝ to 5¾, a divi... ...of 5s. per share being expected next month. Mwyndy Iron Ore have been ...from 4s. 6d. to 40s. North Hendre have advanced to 5½, owing to the capi... ...profits now being realised. West Chiverton flat on the price of lead. Aber... ...are at 11s. Bampfylde, 9s. Bodidris, 20s. Bryn Alyn, 9. Combmartin, ...d. to 3s. 6d. Denbeighshire, 25s. D'Eresby, 18. Glyn, 12s. 6d. Great ...Grogwinion, 50s. to 70s. Gunnislake (Clitters), 23s. Killifreth, ...to 3s. 6d. Llan Gan, 75s. Llanrwst, 45s. Monydd Gorddu, 60s. New ...Penstruthal, 5s. 6d. St. Patrick, 25s. Talargoch, 40s. Van ...Wheal Agar, 70s. Windsor Clive, 50s. In shares of gold and ...there is a fall of 35s. on Richmond. Antioquia are at 11s. Cedar ...Chicago, 52s. 6d. Eberhardt, 5¼. Emma, 1s. 3d. to 3s. 9d. Ex... ...Flagstaff, 55s. Last Chance, 17s. 6d. Pestarena United (Gold), ...St. John del Rey, 300. South Aurora, 4s.

...companies shares are firm. Young's Paraffin 12s. 6d. higher, and Oakbank ...; others unaltered. In shares of miscellaneous companies, the only al... ...a reduction of 2s. 6d. on Phospho-Guano, at 10¾ to 11. Bridgefield and ...Salt are at 60s. Earle's Shipbuilding, 26 dis. General Sewage, 8 dis. ...Wagon, 1¼. Hopkins, Gilkes, and Co., 8½ dis. Milner's Safe, 8¾ to ...In shares of chemical companies, prices are—Bede, 19¼ ex. div.; Laug... ...6s. to 75s.; Lawes', 7 to 7½ cum div.; and Newcastle, 42s. 6d.

...ERSETT IRON COMPANY.—The report of this company states ...the profit for the past year was 83,288l., which is recommended ...applied as follows:—Interim dividend already paid, 20,700l.; ...expenditure on blast-furnaces reconstruction and new brick... ...14,094l.; a dividend of 15s. per share, payable on Sept. 3, ...; this will leave 709¼l. to carry forward, and the total un... ...profits of the concern are thereby raised to 31,642l.

...EN'S CHEMICAL MANURE COMPANY (Limited).—The fifth ...report states that the profit on the year ending June 30 was ...8l., and the balance from the previous year makes the amount ...available for distribution 44,958l.: 10,000l. has been carried to ...reserve fund for the redemption of debentures, and a dividend ...mmended of 8 per cent. on the ordinary and preference stock, absorbing ..., leaving 14,928l. to carry forward. The debenture debt has been reduced ...l. during the year, paid principally out of the reserve fund, the increased ...of preference shares having only been 12,410l. The transfer books were ...on Aug. 17, and will re-open on Sept. 14. It will be observed the dividend ...referred to is the same as last year's, while the balance carried forward is ...Considering the capital financial position of the concern, the ordinary ...(£10 each, 8l. paid), presently at 7 to 7½, seems a safe investment to yield ...per cent.

...MBUSH (Limited), referred to on several occasions, is still pay... ...per cent. dividends, while Wheal Newton, another mine under ...same management, pays at the surprising rate of 80 per cent., and ...ingly something more wonderful still will shortly be heard of, ...Kit Hill Tunnel Company (Limited) is now being formed by ...same parties who have the management of Holmbush and Wheal Newton. ...proposed capital is only one-third of these mines' joint capitals, yet in which ...ers of lodes may be out similar to those now proving so productive in Holm... ...and Wheal Newton." The shareholders in these companies must indeed be ...pleased and delighted. Should they have cause in future for astonishment not ...delightful nature we trust their sleep may not be disturbed by sorrow, as it ...be now by too happy dreams.

J. GRANT MACLEAN, Stock and Share Broker.

...Office Buildings, Stirling, Aug. 23.

THE VAN MINES—MONTHLY REPORT.

...ug. 22.—As under, please find my monthly report and setting ...—In the 105 east we have commenced crossing north at a point ...20 fms. east of shaft, and so far as driven we find the lode in... ...ised throughout with lead; set to six men, at 240s. per fathom. ...105 west of shaft is set to six men, at 220s. per fathom; this ...is improving for the past few days. The 90 west of shaft, driving upon the ...lader, is set to six men, at 240s. per fathom; this end is now 81½ fms. west ...ft, and worth 56l. per cubic fathom for lead ore. The 65 sinking below this ...is down 7 fms; set to three men, at 200s. per fathom, to sink in the south ...of the lode. The stripping of the lode to full width in the side of this level, ...point 60 fms. west of shaft, is set to eight men, at 140s. per fathom. The ...at a point 42 fms. west of shaft is set to 12 men, at 120s. per fathom. The ...level stope in the back of this level (west) is set to eight men, at 60s. per ...fm. The 20 fm. level stope, to eight men, at 70s. per fathom. The 30 fm. ...stope, to eight men, at 70s. per fathom. The average width of the lode at ...points is 5 fms.; worth for lead ore 29l. per fathom. The 90 east of shaft is ...six men, to drive by the side of the lode, at 80s. per fathom; so far as ...ed upon we have a very strong lode in the end of this level, worth for lead ore ...per cubic fathom. This end proves the lode productive 56 fms. east of shaft. ...stripping of the lode to full width in the side of this level, at a point 25 fms. ...of shaft, is set to eight men, at 80s. per fathom. The 10 fm. level stope in the ...of the same level is set to eight men, at 70s. per fathom. The lode at these ...points is worth for lead ore 30l. per cubic fathom. The 75 east of shaft is set ...men, to drive by the side of the lode, at 70s. per fathom. We have put two ...to take down the lode to full width behind the present end of this level at ...per fathom; so far as seen the lode is worth 28l. per cubic fathom. The ...ping of the lode to full width in the side of this level, east of the 75 cross cut, ...to six men, at 100s. per fathom; the lode here is worth 20l. per cubic fm. ...lead ore. The 75 west of shaft is set to four men, to drive by the side of the ...at 100s. per fathom; the lode here is worth 20l. per cubic fathom for lead ...The 75 west of shaft is set to four men, to drive by the side of the lode, at ...per fathom; we are driving here by the side of a productive lode. The ...in the back of this level west of shaft are set as follows:—The 130, to six ...at 6s. per fathom. The 100, to six men, at 70s. per fathom. The 90, to 12 ...at 70s. per fathom. The 80, to 12 men, at 70s. per fathom. The 70, to six ...at 70s. per fathom. The 60, to eight men, at 70s. per fathom. The 50, to ...men, at 70s. per fathom. The 40, to eight men, 65s. per fathom. The 30, ...eight men, at 65s. per fathom. The average width of the lode in these stopes ...is worth for lead ore 22l. per cubic fathom. The winze sinking below this ...is down 10½ fms.; set to four men, at 120s. per fathom. The 60 fm perma... ...lode west is set to four men, at 100s. per fathom. The stopes in the back of ...west of shaft are set as follows:—The 115, to eight men, at 62s. 6d. per fm. ...100, to eight men, at 62s. 6d. per fathom. The 90, to six men, at 60s. per fm. ...to eight men, at 60s. per fathom. The 64, to eight men, at 62s. 6d. per ...fm. The 56, to eight men, at 65s. per fm. The 48, to eight men at 62s. 6d. ...fathom. The 22, to eight men, at 62s. 6d. per fathom. The 16, to eight men, ...per fathom. The 8 east, to eight men, at 65s. per fathom. These stopes ...on the average 16 ft. wide, worth for lead ore 18l. per cubic fathom. The 45 ...permanent level west is set to four men, at 100s. per fathom. The stopes in ...back of the 45 east and west are set as follows:—The 54 east, to eight men, at ...per fathom. The 40 east, to eight men, at 100s. per fathom. The 70 west, to ...men, at 105s. per fathom. The 90 west, to eight men, at 80s. These stopes ...worth for lead ore 20l. per cubic fathom; average width 15 ft. 6 in. The en... ...shaft (Seaham's) has been set to sink from the 105 to the 120 for the sum of ...to 10 men.—Surface: We are making very satisfactory progress with the ...erection of the new halvan floors and erection of 36 in. engine. Our sale of lead ...lode takes place to-morrow upon 500 tons of the former, and 150 tons of the ...—WM. WILLIAMS.

...INDUSTRIAL COAL AND IRON COMPANY (Limited).—The Master ...in the Rolls has appointed Mr. John Unwin Wing, of Princes-street, Bank, public ...accountant, to receive the assets, property, and effects of this company.

...SOUTH COLLIERY COMPANY (Limited).—Creditors are required on ...before Sept. 29 to send their names and addresses and the particulars of their ...debts or claims, and the names and addresses of their solicitors, to Frederick ...Lindsey, of Old Jewry, the official liquidator of the company.

COPPER ORES.

Sampled Aug. 8, and sold at the Royal Hotel, Truro, Aug. 23.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols	93	£1 15 6	Marke Valley	65	£2 4 6
ditto	85	1 17 0	ditto	61	3 7 6
ditto	84	1 13 0	ditto	47	3 13 6
ditto	83	1 12 0	ditto	31	2 3 6
ditto	80	4 18 0	ditto	30	1 7 6
ditto	76	4 5 0	Glasgow Caradon	78	4 14 0
ditto	75	4 5 6	ditto	72	4 9 0
ditto	73	4 13 6	ditto	65	4 10 6
ditto	67	1 13 0	ditto	35	2 4 6
ditto	61	1 14 0	Gawton	71	1 8 6
ditto	52	1 12 6	ditto	60	2 2 6
ditto	47	4 18 6	ditto	56	1 15 6
South Caradon	85	3 9 0	ditto	38	1 12 0
ditto	69	3 1 0	Hingston Down	73	2 3 6
ditto	65	3 3 6	ditto	51	1 9 0
ditto	56	5 14 6	ditto	50	2 3 0
ditto	52	5 13 6	Phœnix	60	2 19 6
ditto	51	8 14 0	ditto	40	1 10 6
ditto	49	8 15 0	ditto	38	5 16 6
ditto	43	4 2 6	West Maria & Fortescue	79	2 6 6
Marke Valley	80	2 11 6	ditto	19	1 9 6
ditto	66	2 13 6	East Caradon	60	3 13 0

TOTAL PRODUCE.

Devon Great Con.	875	£2267 12 6	Hingston Downs	174	£ 340 4 0
South Caradon	470	2375 12 0	Phœnix	138	420 17 0
Marke Valley	380	1014 9 0	West Maria, &c.	98	211 14 6
Glasgow Caradon	250	1059 0 0	East Caradon	60	219 0 0
Gawton	225	388 17 6			

Average standard ..... £ 96 16 0 | Average produce 6
Average price per ton £3 2 6
Quantity of ore ..... 2670 | Quantity of fine copper 161 tons 19 cwts.
Amount of money £8337 6 6
LAST SALE.—Average standard ..... £ 90 14 0 | Average produce 8
Standard of corresponding sale last month, £ 99 7 0—Produce, 6¼

*** The complete Ticketing will be published in next week's Journal.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—S. Toy, Aug. 23: The new shaft is now down 9 fms. below the deep adit level; the ground is much the same for sinking as it was last week, but the water is increasing on account of the recent heavy rains. The cross-cut at Crowtwn is still discharging much water, but we have not met with anything worthy of remark since my last report.

ASSHETON.—J. Craze, J. Manley, Aug. 22: The 60, east of boundary, is set to two men, at 9*l.* 12s 6d. per fathom; the lode is large, composed of spar, containing a little lead and blende, but not sufficient to value. The 50, east of Mawr, driving driving south on the north and south lode, is now extended 16½ fms. from junction; set to two men, at 8*l.* 15s. for 1 fm.; the lode is about 4 ft. wide, composed principally of spar, with stones of lead and copper ores. The 20, east of Mawr, driving south on the north and south lode, is now extended about 35 fms. from junction; set to four men, at 4*l.* 10s. per fathom. The lode in the present end is large, and yields a little lead, of a very promising character for an improvement. The rise in the back of this level is now up about 3½ fms.; set to two men, at 3*l.* 5s. per fathom. The lode has greatly fallen off in value since our last; we hope that this is only temporary, and that it will again shortly improve. The 20, east of north and south lode, on east and west lode, has been extended 2½ fms.; the lode here is fully 2½ ft. wide, producing lead and blende, of a very kindly appearance, and lets out a great influx of water; not yet sought. We have set the following tribute pitches:—Two men in back of the 0, east of boundary, tribute not taken, 4*l.* 10s. offered. Two men in the back of the 40, east of boundary, at 7*l.* 10s. per ton. Two men in back of the 40, west of Browne's, at 6*l.* 15s. per ton. Three men in bottom of the 40, west of Browne's, at 6*l.* 15s. per ton. Three men in bottom of the 40, west of Browne's, at 6*l.* per ton. Two men in back of the 50, west of Mawr, at 5*l.* per ton. Two men in back of the 50, east of Mawr, at 7*l.* 10s. per ton. Two men in back or the 40, west of Mawr, at 7*l.* 5s. per ton. Two men in back of the 20 east, on north and south lode, 6*l.* per ton. Two men in back of the 20 east, on north and south lode, at 7*l.* 10s. per ton. We have shipped the parcel of lead for Messrs. Weston, Son, and Co., and we are pushing on the dressing of another parcel to sample in the usual time, and we hope to get a parcel of blende for sale shortly.

CAMBRIAN.—Thos. Glanville, Aug. 23: ESGAIR-FRAITH: Nothing has occurred worth noting since my last report in the eastern shaft, the lode still showing the same splendid appearance, and is worth not at all less than 40*l.* per fathom for copper and lead ores. The winze sinking below the 10 and west of eastern shaft is worth 50*l.* per fathom.—ESGAIR HIR: In driving south of the new shaft the lode is looking very well, and is worth at the very least 20*l.* per fm. for lead ore.

CARGOLL.—J. Jennings, Aug. 22: The lode in the 4, west of Bowyer's shaft, on the No. 4 branch, which is caunting towards the south lode, is still carrying a nice branch of lead on the footwall; when last taken down it was worth 10*l.* per fm. The lode in the 24 east of shaft, on the south lode, is 2 ft. wide; it has every appearance of coming into a good course of lead, and by extending 2 or 3 fms. further east will come under a good shoot of lead gone down from the 24, where we have just began to sink a winze, and I am pleased to state that it is worth fully 15*l.* per fathom. The lode in the 24 east, on the caunter part, is improving, and producing a little lead—a very promising end, and the south lode east at this level is just of the same character. The stope in the back of the 24, 13 fms. east of shaft, is much the same as for some time past, worth 12*l.* per fathom. In the adit level west, on the main lode, we have of late driven through a few fathoms of rather dark kilias, but have now got into a beautiful light strata, where the lode is looking more alive for an early improvement.

CLEMENTINA. John Roberts, William Bennetts, August 22: We have again commenced sinking the shaft, and hope now to be able to get down to the 35 without any further hindrance; we purpose putting on nine men, so as to hurry it down as soon as possible; the lode is improving again, as we were saying it would do. During the month we have driven the 25 end about 6 ft.; the lode, as we reported last time, is poor, except in the bottom of the end, where it is worth 1 ton of lead per fathom; as we have said before, this seems to be driving over a good course of ore, and speaks well for the 35. The stopes are poor, and for the time being we have suspended them. When the end is a little further advanced we shall meet the bunch of ore in the winze from the 15, and open more stoping ground. We are growing more confident that the 35 will be the best level of any that have yet been driven in the mine. On account of the drought we have not been able to crush any ore for the last fortnight, and so the dressing is not so forward as it would have been had there been water. When Mr. Lamb was here on Saturday he saw the difficulty of making as much progress as we desire. The reservoir will be completed next week. The pit for the new water-wheel is far advanced, and will be completed shortly.

COMBMARTIN.—E. Hosking, J. Corner, Aug. 23: The lode in the 37, east of the cross-course, is 4 ft. wide, yielding 2 cwts. of silver-lead per fathom. The end presents a kindly appearance; the ground is more favourable for driving, letting out water freely, which we consider a good indication. The lode in the 37, west of the cross-course, is 4 ft wide, producing 3 cwts. of silver lead per fathom. The lode in the stope below the 37, east of the cross-course, will yield 5 cwts. silver-lead ore per fathom. Better progress is being made in driving the levels, and we are expecting an improvement as we extend our 37 west.

COURT GRANGE.—J. G. Green, Aug. 22: I am glad to report that the mine is now clear of water. The surface rods parted on Saturday, which stopped our pumps 48 hours, but this has now been repaired, and all is going on well. The pit man and pare shall now thoroughly repair the shaft throughout, stay main-rod, put in footway, &c., and when the skip way is completed, and new cisterns placed in the 30, 40, and 50, I intend commencing to sink a 64 fm. level, where it is confidently hoped we shall open a good section of ground for stoping. The 16 east is in a fine lode, and looks most promising for a rich deposit. The 16 west also presents a favourable appearance: I intend putting four men in this end next month. No alteration in Elgar cross-cut. Our stopes same as last reported.—Surface: The weather has been very much against the progress of all descriptions of surface work since my last, still good progress is being made. The ore passes are in a forward state, and the excavations for new crushing mill will, I expect, be completed in the course of a fortnight.

CWM ELAN (NEW).—W. Goldsworthy, August 18: Setting Report: The 40 to drive west, by four men, at 6*l.* 5s. per fathom; the lode is worth 8 cwts. of lead and 10 cwts. of blende ores per fathom. The lode in the 40 east has fallen off a little in value since last report, but I think it is only a temporary change; the present value is 7 cwts. of lead and 10 cwts. of blende ores per fathom; set to six men, to drive, at 6*l.* 15s. per fathom. I have also set to this pare of men a bargain of 7*l.* to cut down the side of the level for a plat or lodge and 6 ft. of the north lode, where it branches off from the south lode, or we may say at the junction of the south and north lodes. I am under great expectation that the north lode will open out good. The 30 west, on the cross lode, by two men, at 2*l.* 10s. per fathom; we are meeting with occasional but very fine stones of lead ore. The lode appears to be turning to its proper course as we advance in the direction of the hill. No. 1 stope in the 30 east, on the north lode, by two men, at 3*l.* 10s. per fathom, lode worth 12 cwts. of lead ore per fathom. No. 2 stope, price refused; the present value of the lode is 10 cwts. of lead ore per fathom. No. 1 stope, on the south lode, is worth 8 cwts. of blende and 8 cwts. of lead ore per fathom; by four men, at 3*l.* 2s. 6d. per fathom. No. 2 stope, by two men, at 2*l.* 5s. per fathom; the lode is not looking so well as last reported on; the present produce is 7 cwts. of lead and 7 cwts. of blende ores per fathom. I have stopped sinking the winze, as we are close to the top of the stope beneath. I have put the men to work in the said stope, and a communication will shortly be made. The stope in the 20 west, by two men, at 3*l.* 15s. per fathom; the lode is worth 9 cwts. of lead and 12 cwts. of blende ores per fathom. Surface work is going on regularly.

CWMYSTWITH.—Aug. 23: Setting List: Michell's cross-cut to drive north: The ground in this still continues stiff for driving.—Michell's level to drive east on Michell's lode: The lode is 2 ft. wide, strong and masterly, but poor.—Michell's level to drive west on new lode: We now have the lode with a regular bearing west of slide, and the ground has become more settled than we have seen it for the last 4 fms. driving. The lode in the end is 1 ft. wide, showing strong spots of blende, but not sufficient to value.—The 12 over Michell's to drive east on the new lode: The lode has been taken down, but has not produced sufficient ore to put a value on; however, the last hole blasted in the end cut good stones of lead ore, and we can reasonably expect an early improvement, as we are in a line for the pipe of ore worked on in the stope below.—Gill's upper level to drive east on the new lode: The lode has recently fallen off in value, but still strong, and producing saving work for dressing.—Gill's upper level to drive west on south lode: The lode is 2 ft. wide, composed of clay-slate, spar, with occasional spots of lead ore, not sufficient to value; at the same time, a promising lode.—The 12 over Level Fawr to drive east on Kingside lode: The lode is 2 ft. wide, worth 10 cwts. of lead ore per fathom.—The stope in the back of Michell's level, west of rise, on the new lode: The lode is 3 ft. wide, worth 15 cwts. of lead ore per fathom.—The stope in the back of Michell's level west, on Michell's lode: The lode is 1 ft. wide, worth 10 cwts. of lead ore per fathom.—The stope in the west end of the winze, under Rosa level, on the new lode: Lode 2 ft. wide, worth 15 cwts. of lead ore per fathom. In stripping down the south part of the lode in the winze under Michell's level, on the new lode, the lode is 3 ft. wide, worth 12 cwts. of lead ore per fathom. The stope in the back of the Level Fawr, on copper lode, the lode is 2½ fms. wide, worth 12 cwts. of lead ore per cubic fm. The stope in back of the 24 over Level fawr, on Kingside lode and branches, the stope is 9 ft. wide, worth 15 cwts. of lead ore per cubic fathom. The stope in the back of Kingside adit level, on Kingside, the lode is 3 fms. wide, worth 8 cwts. of lead ore per cubic fathom. The stope in the back of the 30 (Pughes's shaft), on the Comet lode, the lode is poor; suspended as a stope, and set as a rise; we think it a worthy trial. A rise in the back of Michell's level east, on the new lode; after having cleared the stuff and secured the ground in the old plat over the 30 (Pughe's shaft), we have since our last setting opened out a stope here which we have every reason to think will pay us well; we can safely calculate that we got 2 tons of lead ore last month, but as the running of the old stulls is uncertain, it is impossible to say what is over or before us, although we think it will turn out well. A pitch in the back of the 15, east of Kingside shaft, on Kingside lode; the men in this pitch can get fair wages. Our ends at present are looking poor, but the stopes, on the whole, are turning out better than they have been lately. We still have very wet weather, consequently we cannot get on with the new work at surface as fast as we wish, but have had the Collom's jigs in motion, and we are pleased in being able to state that they work well; but the elevator and separator are not quite completed, but we hope to get all in good working order in two or three days from this time. The dressing is being pushed on as fast as possible, and we shall have 25 tons of lead ore in the bin ready for sampling on Aug. 28.

DE BROKE.—J. Phillips, Aug. 22: The lode in the 45, driving west of Wilson's, is strong and regular, carrying good patches of solid lead ore mixed with copper, and the right kind of quartz for mineral. There is nothing new in the 45 east, as we have been clearing an accumulation of stuff in the bottom levels. The men in the rise above the 25 east have been putting in stemples and clearing their stuff. The part of the lode carried by the rise is producing some good crystallised lead ore in strings, but the ground just now is disturbed at this point. The stope in the 25, 7 fms. above the level, is worth 24*l.* per fm. The two stopes east and west of Wilson's shaft are giving an average yield of 20 cwts. of lead ore per fm., and likely to maintain it. The tribute pitch at Twygwyn yields 15 to 16 cwts. per fm. Biddings for 20 tons of lead ore are due next Monday.

DERESBY MOUNTAIN.—William Bennetts, Aug. 22: No. 3 Adit: During the month we have driven 1 fm. 2 ft. Since the last monthly report the lode has commenced to open wider, and is producing good stones of lead, and letting out a great deal of water. We have driven the No. 4 adit 2 fms. on the Hafra lode. The lode during that driving has been worth ¾ ton of lead ore per fathom. The forebreast of the end is not to day looking quite so well; producing not more than ½ ton per fathom. The lode is disordered by a splice, but we think it is only temporary. We shall get in the rails here as soon as possible, and when the lead stuff is cleared out we recommend putting up a rise to the next level which will open good stoping ground. No. 5 adit is the deepest. We cleared the mouth sufficient to let down a great quantity of water, and we are now clearing a shaft, which will be completed by the end of the week, which, we believe, will let down the whole. We fully concur with Mr. Lamb that we should erect a crusher and water-wheel directly, and also put two men on the blende lode in the No. 1 adit.

DENBIGHSHIRE CONSOLIDATED.—John Pryor, Aug. 23: The lode in the 112 east is beginning to show lead ore, mixed with blende, on the footwall side, and taking the proper course for Coed-y-fedw. We are making good progress with the cross-cut driving south, which is in tolerably favourable ground. The north cross-cut is in hard ground, but there is water issuing from the bottom of the level now, so that we think we shall not have to go far before intersecting the 66 west lode. I have now put six men to work on the great swallow intersected some time since; there is a splendid lode in sight, which I believe will yield well. At Parry's an improvement is taking place in sinking, and from the very bottom to day the men took up some very good lead oae.

EAST CHIVERTON.—R. Southey, Aug. 22: Since my last report we have driven the 74, west of engine-shaft, about 4 fms.; the lode is 2 ft. wide, and the lead-bearing part continues about 1 foot wide, and worth for lead 25*l.* per fathom; we are pushing on this end as fast as possible by six men, at 4*l.* per fathom. This is the best discovery made since the mine commenced working, and should it continue, which, judging from present appearances, I have every reason to believe it will, this mine may be considered a great success. It is also very satisfactory to state the head has been intersected just about the point predicted in previous reports. The ground in the 64 cross-cut, driving south of the engine-shaft (to intersect the south lode), is much the same as when last reported on; the end is being driven by four men, at 15*l.* per fathom; although the end is hard and spare for driving, the object we have in view in cutting the lode south is a point to be looked forward to with interest. In conclusion, I beg to say future prospects are very encouraging.

EAST VAN.—William Williams, Aug. 22: The 40 cross-cut is driven north 40 fms. 4 ft., and has reached the flookan, or soft part of the lode. We shall drive speedily now, so as to intersect the main lode. The 25 west, driving upon the course of the lode, has improved very much in appearance during the last few days, showing spots of lead, and is likely for further improvement. The stope in the back of cross-cut A continues to yield pretty fair stuff—bucky—some days pretty good and other days poor.

ELGAR.—James G. Green, Aug. 22: The lode has again improved in No. 1 winze, sinking below adit, now down 6 fms., and I am certain it will hold to our 10, a most important point. The part carried in winze is 3 ft. wide, and is spotted with lead throughout; the eastern end appears to be the best.

GAWTON COPPER.—George Rowe, George Rowe, jun., Aug. 18: The lode in the rise in the back of the 132 is worth 12*l.* per fathom. The lode in the winze sinking to communicate with the rise is worth 12*l.* per fathom. The lode in the 105, west of cross cut, improving both in character and value, yielding 5 tons of mundic per fathom, with indications of further improvement. The lode in the 105, west of cross cut, is 6 ft. wide, principally mundic and ore, worth 30*l.* per fathom. The ground in the 95 cross-cut south is stiff, being mixed up with spar and capels, spotted throughout with mundic, and showing indications of being near the main part of the lode. The ground in the 82 cross cut south is highly mineralised, being spotted with mundic, spar, and good quality copper ore. The tribute department is without change.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, Aug. 21: The sinking of Elliott's shaft is being pushed on as fast as possible; we have now about 2 fathoms more to sink to make it the required depth for the 90 fm. level, and the ground still continues favourable. We shall in a few days commence to sink a winze in the lode a few fathoms east of the shaft to expedite the opening of the 90 In the 78 east the lode appears to be split, and the end gone off on the north part, which has become poor. In the bottom of the midway, about 4 fathoms before this end, we have a winze down about 4 fathoms in a good lode, which appears to be going down south on the level altogether: we shall have to drive a short cross cut to it. In the 78 cross cut south the ground is favourable, but we have not cut any more lode; we shall push it on to the killas. The 78 east, on the branch, is worth 5*l.* per fathom. The winze in the bottom of the midway is worth from 18*l.* to 20*l.* The 65 east, on Harvey's north lode, is worth 5*l.* per fathom, and opening tribute ground. No change in the 52, east or west, on the caunter. The stopes and pitches throughout the mine continue to turn out their usual quantities of ore, varying in value from 12*l.* to 30*l.* per fathom. The new surface work is all in a forward state, the masons are building the boiler house and stack, and the engineers are fixing the whim-engine. We hope to get it all finished up before the winter sets in.

GLENROY.—R. Rowe, Aug. 22: The sinking of the shaft is progressing rapidly below the 85; the lode is fully 6 ft. wide, but unproductive. The lode in the 25 end driving south is 3 ft. wide, and the appearances are still promising, blende being interspersed throughout the lode, and good stones of lead occasionally. The stope in the roof of the 40 is now yielding some good stuff for lead and blende.

GORSEDD AND MERLLYN CONSOLS.—William Edwards, Aug. 23: I have no particular change to notice since my last report. Both the eastern and western levels are, I am pleased to say, showing signs of further improvement.—Gorsedd Lode: I am glad to say that considerable improvement is taking place as we sink, and there is every appearance that we are on the top of something good here also. We shall deliver another parcel of 50 tons of ore during the coming week; price realised, 13*l.* 10s. 6d. per ton.

GREAT DYLIFFE.—Evan Evans, Aug. 21: In the 132 we are driving east and west, by eight men, at 6*l.* per fathom; in the east end we have a string of ore broken in to-day, but we shall say more about it next week, as there is not enough done in the west end to value it. The stope over the 132 east is set to four men, at 3*l.* 17s. 6d. per fathom, worth about 16*l.* per fathom. The stope over the 132 west is set to six men, at 3*l.* 15s. per fathom, worth about 16*l.* per fathom. The stope over the 120 east is set to six men, at 3*l.* 10s. per fathom, worth about 16*l.* per fathom. In the bottom of the winze, under the 45, we are driving east and west, by six men, at 6*l.* 10s. per fathom; we cannot yet value it. In the 45 we are driving east, by four men, at 5*l.* 5s. per fathom; we have about 3 fathoms to drive in this level to meet the winze in the bottom of the 25. In about a fortnight a communication will be effected, and this being done we shall have good ore ground to stope here. The winze in the bottom of the 25, west of the old shaft, is set to three men, at 7*l.* per fathom; sinking 5 ft. on this winze will complete it to meet the 45. In the bottom of the winze, on the new lode, we are driving east, by six men, at 5*l.* 15s. per fathom, and 5s. per fathom for tipping the stuff; this lode looks much the same as last week.—Llechwedd du Lode: No. 1 stope, over the 105, east of engine-shaft, is set to four men, at 3*l.* 5s. per fathom, worth about 16*l.* per fathom. No. 2 stope, over the 105 east, is set to four men, at 3*l.* 5s. per fathom, and worth about 12*l.* per fathom. No. 3 stope, over the 105 east, is set to two men, at 3*l.* 5s. per fathom, worth about 13*l.* per fathom. The cross cut from the western end of the 135 to the Esgairgaled lode is worked by six men, at 5*l.* 18s. per fathom. In the 95 we are stoping by four men, at 3*l.* per fathom, worth about 13*l.* per fm. In the 95 east a stope is set to two men, at 3*l.* 5s. per fathom, picking included, worth about 12*l.* per fathom. Under the 55 we are driving a midway level, by two men, at 5*l.* 10s. per fathom.—Esgairgaled Lode: The stope over the 45, west of the cross-cut, is worked by four men, at 1*l.* 10s. per cubic fathom, worth about 12*l.* per fathom. There are four pitches set on tribute, to 54 men—two men at 3*l.* per ton, six men at 3*l.* 15s., four men at 4*l.* 10s., six men at 5*l.*, four men at 5*l.* 10s., six men at 6*l.*, fourteen men at 6*l.* 10s., two men at 7*l.*, and six men at 7*l.* 10s. per ton.

— Aug. 22: The new lode varies in width from 6 in. to 3 ft. 6 in.; in our trial on it we did not see it over 3 ft. wide, but in the place where the lode is to be seen on surface it is 3 ft. 6 in. wide for about 6 fathoms in length. In size it resembles the Llechwedd du lode, that rich lode being in scores of cases nothing more than a mere joint, and that in some instances when within 2 feet to a foot of solid lead. The trial that is made on this new lode is very little. First, we drove on it 9 ft. 5 in., at 5 per fathom, after that we sunk about 4 fathoms at 6*l.* per fathom, and last Monday (Aug. 20) we commenced driving in bottom of the winze at 5*l.* 15s. per fathom; the pile of stones of ore that we have taken from this little trial is more than enough to justify all that is done. We have to day very nice stones of ore taking from the driving. We have sold to day 60 tons of lead ore, to Mr. Adam Eyton, at 12*l.* 3s. 6d. per ton, realising 730*l.* 10s.

GREAT LAXEY.—W. H. Rowe, Aug. 15: The completion of the work at the big wheel still prevents the sinking of the Welch shaft, and driving south from the engine-shaft. The 235 fm. level end driving north of Welch shaft has considerably improved; now worth fully 40*l.* per fathom. At the same level driving south of winze the eastern branch of the lode is becoming poor; I have suggested cross-cutting to that upon which the end just mentioned is driving. The cross-cut has already cut into good ore, but not sufficiently opened to value. The end driving north of winze is worth 35*l.* per fathom. The opening on a side branch, south of No. 1 stope, is so far worth about 20*l.* per fathom, and shows a greater extent of ore ground towards the Welch shaft than appeared to be before. A further opening will in all probability show that our best course will be to continue the old stope southward quite through this, and as far as the paying ground extends. In the 220 end north the lode is of a loose open kind, but at present not of much value. We have resumed the rise and stope over this level; the present value is 50*l.* per fathom. The lode in the 210 end driving south of No. 2 cross-cut appears to be recovering itself after meeting with some cross-joints, and it is now worth 8*l.* per fathom. This and the corresponding end going south of No. 2 cross cut in the level above are very important points, and will be followed up vigorously. Every fathom opened while the ore lasts, adding to the length of available stoping ground. The stope in the roof of the 210 is about the value before reported—40*l.* per fathom. Those in the sole of the 200 are comparatively poor at present. The sump sinking from the 200 end to communicate with the 215, south of Dumbell's, is opening ground of fair value. The stopes over this and throughout the deep mine just now vary considerably—from 10*l.* to 5*l.* per fathom.—Dumbell's: The 215 level north and south is now sufficiently extended to allow of our making immediate preparations for resuming the sinking of this shaft, which is being done, and the ends temporarily suspended until the holing from the deep mine is effected. The 200 end continues in a barren run of ground, the lode, however, showing a little ore. The 185 cross-cut has intersected a branch of the lode worth 30*l.* per fathom. We are now sinking in the sole of the 170 north to communicate with the 185 and near the forehead of the former level, which is worth 25*l.* per fathom. In opening a side branch in the roof of the 185 we find it worth 20*l.* per fathom. A stope in the roof of the 155 is worth 20*l.* per fathom, and one in the sole of the 140 worth 40*l.* per fathom. The cross-cut east in the 1 5 north is in favourable ground, and making good progress. The rise in the middle ground in the roof of the 110 is now fairly started; the lode is large, and yielding ore enough at present to pay. As you are aware this ground is whole to the day level. The cross cut underneath the washing floors has been hindered from want of ventilation, but is now going on briskly without hindrance, and with good prospects.

GREAT RETALLACK.—J. Harris, August 18: To-day being our pay and setting day, I set the following bargains:—The whim-shaft is sunk 7 fms. below the 45, and we have about 3 ft. more to reach the bottom of the 53. The leader part of the lode in the shaft is about 18 in. wide, and worth about 1½ ton of blende per fathom; contract not out, sinking by six men. A pitch below the 45 east, by eight men, at 17s. 6d. per ton for best blende and 10s. 6d. per ton for No. 2, and to be paid 5*l.* per fathom for sinking a winze to the 53, for one month, the tributers to pay all cost of making their ore marketable; lode worth 4 tons of blende per fathom.

HINGSTON DOWN CONSOLS.—Thos. Richards, August 23: In Bailey's shaft good progress in sinking is still being made.—Bailey's Shaft: In the 16, west of Nicholls's winze, the lode is worth 3 tons of ore, or 12*l.* per fathom. The winze in the bottom of the 160 is worth 5 tons, or 20*l.* per fathom. In the stope in the back of the 160, east of Nicholls's winze, the lode is worth 6 tons, or 24*l.* per fathom. In the stope in the back of the 160, west of Nicholls's winze, the lode is worth 3 tons, or 12*l.* per fathom. In the 150 fathom level west, on the south part of the lode, the lode is for the present disordered by a cross course, and is worth 2 tons, or 20*l.* per fathom. In the 140 west the lode is producing stones of ore. The stope in the back of the 140, west of Chynoweth's rise, is worth 5 tons, or 20*l.* per fathom. In the winze sinking below the 120, on the south part of the lode, the lode is producing stones of ore. In the 110 west, on the south part of the lode, the lode is producing a little grey, black, and red oxide of copper, and is promising.

HOLMBUSH.—H. Bennett, Aug. 23: We are continuing to have the engine shaft cleared with all possible dispatch in order to reach the 90 fm. level. We are clearing also Lord's shaft below the 60 as fast as possible, so as to get to the 90 fm. level. All the other underground operations are without any change worthy of notice. In continuing the excavation of the lobby to water-wheel pit we have cut across another lode about 20 fms. south of the one previously discovered; I have to-day broken from it some of the finest stones of copper and gossan I ever saw, but as we have only just cut through the back of it enough has not been seen to speak of its value, but so far as seen (about 6 ft. below the surface) the appearances are everything that could be desired. We have as yet been able to do but little in the lode first intersected in the said lobby, but from the little seen it has improved in depth, and in the course of a week or two I shall be in a position to say more about it.

KINGSTON CONSOLS.—J. Chynoweth, Aug. 16: Good progress has been made in driving the 30 west of the engine shaft; the lode is 5 ft. wide, occasionally producing good stones of lead and blende. Fair progress has been made driving east in the 18 fm. level; the lode is worth 10 cwts. of blende and from 2 to 3 cwts. of lead per fathom. In the 18 west the lode is producing saving work, and of a promising character. In No. 3 winze, sinking below the 8, the lode is 18 inches wide, producing beautiful stones of lead. No. 4 winze is down below the 18 fm. level 10 fms. 4 ft.; the lode is 4 ft. wide, worth 6 tons of blende and ½ ton of lead per fathom for the length of the winze, or in money 35*l.* per fathom. At the present bottom of this winze the lode has made a splice, by that the lode has fallen in value, but according to my opinion, and what I have seen before, it will be to the future benefit of the lode. The five stopes working in the back of the 18 are producing their former value for lead and blende. We weighed off yesterday 16 tons and blende sold the 16th inst. All the machinery in good working order.

KINGSTON CONSOLS.—J. Chynoweth, Aug. 23: Good progress has been made driving west on the 30, lode large, occasionally producing stones of lead and blende. Fair progress has been made driving east at the 18; lode 18 in. wide, producing saving work for lead and blende. The lode at the 18 west is looking very promising, and, according to my opinion, we shall soon get something good this point. No. 3 winze, sinking below the 18, lode 2 ft. wide, producing saving work. No 4 winze, ditto, will be down deep enough to meet the 30 driving west by the end of this week; lode 2 ft. wide, worth 5 tons of blende, and 10 cwts. of lead per fathom to the length of winze, 9 ft. long, or [28]*l.* per fathom. All the stopes working at back of 18 producing the former value for lead and blende. All machinery in good working order.

LADYWELL.—Arthur Waters, Aug. 23: Nothing new here since my report last week. The new engine, with winding gear, are all on the mine.

LLAN GAN.—T. Wasley, Aug. 22: Engine Shaft: We hope to finish the sinking for the first levels in the course of a week, when we shall commence the cross cuts—one north and one south. In sinking we have met with several branches underlying north towards the main lode, so that they will prove feeders to the lodes north of the shaft.—Wright's Shaft: The men are making good progress with the sinking.—Winze: The men are stoping, and the lode is looking well, with every appearance of a further improvement; the lode is better as depth is reached, and is becoming more compact.—Old Engine Shaft: The winze west of the shaft appears to be improving. The stopes in the back of the level are continuing to look well, and will yield fully 1½ ton per fathom. Lead: We are getting three parcels ready for market, which will realise high returns than the former ones. All the other works are progressing a satisfactory.

LLANRWST.—Robert Knapp, Aug. 23: We have fully 30 tons of lead ready for market, and have a large quantity more on the floors in course of dressing. We have intersedted an entirely new lode, not previously known to exist in the mine, at the 10 above adit. It is a true caunter, and, though only 10 fms. from the surface, is producing some very good ore. I am in hopes that at deep points this will prove a valuable auxiliary to the mine. The other parts of the mine are without change since my last, and the mine is looking well throughout.

MELLANEAR.—J. Gilbert, Aug. 22: We set the following bargains on Saturday last:—The 50 to drive west of the skip shaft, by four men, at 2*l.* 17s. 6d. per fathom; the lode in this end is improved a little, and is now 15 in. wide, worth 1½ ton of ore per fathom. No. 2 rise in the back of the 67, west of skip shaft, to four men, at 4*l.* 5s. per fathom; this lode is 2 ft. wide, and worth 1½ ton of ore per fathom. No. 3 rise in the back of this level, to four men, 3*l.* 15s. per fathom; the lode is 3½ ft. wide, and still worth 4 tons of ore per fathom. The stope in the bottom of this level, west of the cross-course, to four men, 2*l.* 17s. 6d. per fathom, and the lode is worth 6 tons of ore per fathom. The rise to drive west of the skip-shaft, by six men, at 4*l.* 15s. per fathom; the lode is 4 ft. wide, and worth 3½ tons of ore per fathom. The rise in the back of the 80 against the skip-shaft, by six men, at 9*l.* per fm.; this rise is in the cross-course. Gundry's shaft to sink below the 80, by twelve men, at 28*l.* per fathom; we sunk last month 2 fms. 3 ft. 4 in., and the shaft is now down nearly 10 fms. below the 80. We intend to sink about 4 ft. further, and then begin to cut plat, after which we shall drive south and cut the lode at the 90 as soon as possible. The 80 to drive west of Gundry's shaft, by four men, at 5*l.* 15s. per fathom; there is no change in this level to notice—the lode is still worth about 1½ ton of ore per fathom. The stope in the back of this level, east of Gundry's shaft, to four men, at 2*l.* 10s. per fathom; the lode is 4 ft. wide, and worth 5 tons of ore per fathom. The 70, west of shaft, by four men, at 5*l.* per fathom; the lode is 4 ft. wide, and worth 3½ tons of ore per fathom. The rise in the back of this level, east of shaft, by four men, at 3*l.* 15s. per fathom; this rise is up 12 fms. and we have to rise about 4 ft. further to be high enough for the 60—the lode is worth 3½ tons of ore per fathom. The rise in the back of this level, west of shaft, by four men, at 2*l.* 15s. per fathom; the lode is 4 ft. wide, and worth 3½ tons of ore per fathom. The 60 to drive east of shaft, by four men, at 3*l.* per fathom; the lode is 4 ft. wide, and still worth 4 tons of ore per fathom, with more lode standing in the south side. The 60, west of the shaft on the north part, by four men, at 3*l.* 15s. per fathom; the lode is about 3 ft. wide, and worth 2½ tons of ore per fathom. The rise in the back of this level, by four men, 3*l.* 10s. per fathom; the lode is 4 ft wide, and worth 3 tons of ore per fathom. We also set 10 pitches, to 31 men, at an average tribute of 9s. in 1*l.* We have fixed the 13-inch plunger pole at the adit level in the old engine shaft in the place of the 11-inch one that was working before. This will now give us sufficient water for all our crushing and dressing operations. The new jiggers are working very satisfactorily, and we expect to put the centrifugal pump to work this afternoon. We sampled yesterday (computed) 440 tons of copper ore.

MONYDD GORDDU.—Aug. 22, James G. Green: Fair progress is being made in sinking engine-shaft. The 12 east has holed into level driven by Capt. Rowe; the lead held within 2 ft. of said level; the men will now commence stoping back on a lode worth 20*l.* per fathom. The 12 west: In cutting down the lode full width on the north side of this level we have got into a large vugh or cave filled with gossan; the lode on the south side of said vugh for distance opened on (7 ft.) is worth 2*l.* per fathom; it has a wonderful appearance, and indicates, in my opinion, a very rich mine in depth where it will get more consolidated. Very little has been done in the cross cut to north lode since my last, the men being most of their time in the engine shaft; it is now in about 7 ft., and the lode presents most congenial rock for the production of lead. I consider this one of the most important points in the mine, and would like to keep four men constantly at work in it; we would thus drive the 10 fms. in the course of three or four months.

NEW BRONFLOYD.—Thomas Kemp, August 23: No. 3 Shaft, North Lode: The south part of the lode carried by the 121, west of shaft, has within the last few days very much improved, being composed of killas and spar, strongly impregnated with lead ore, and from present indications of the lode in the extreme point of the drivage we may expect a further improvement. The lode in the 52 end, east of No. 2 shaft, has also improved, which is composed of killas and spar, carrying good strings of ore; as this drive proceeds, in all probability we shall have a further improvement here. The different stopes and other bargains throughout the mine are without any change to notice since last report. The wheel-pit will be completed to-morrow. I have given Mr. Green instructions to deliver the wheel, rods, &c., at once. We sampled yesterday 25 tons silver-lead ore, for sale on the 30th inst. Hauling and dressing going on with all regularity. The machinery is in good working order.

NEW HENDRA.—Richard King, Aug. 20: The men are still clearing away at the north lode. We occasionally meet with small arches, from which we have broken some tinstuff which we shall sample next week to ascertain its value. We have now got the copper ore ready for market, and we shall take it to Hayle with the next sampling comes off.

NEW SOUTH MERLLYN.—R. Rowlands, Aug. 23: The vein in the 80, east of shaft, is a splendid one, about 4 ft. wide, and we continue to get on in good stoping south, is a splendid one, about 4 ft. wide, and we continue to get on in fine clay, and the tumblers of spar are also spotted with lead. The appearances in the other points of operation are more encouraging than when I last reported.

NEW TYLLWYD.—J. Harris, Aug. 16: The lode being stoped from the end of the winze in the bottom of the adit level is about 1 ft. 8 in. in width, extending from a rib of clay-slate and spar, with a rib of lead about 1 in. in width, extending from the back of the 20, west of the cross cut, south of the engine-shaft, on the south lode, is about 1 ft. 4 in. in width, composed of clay-slate and spar, with a small rib of lead throughout. The cross-cut in the 20 is steadily progressing.

NEW TYLLWYD.—J. Harris, Aug. 23: The lode being stoped in the back of the 20, west of cross cut, south of engine-shaft, on south lode, is about 1 ft. 4 in. in width, composed of clay-slate and spar, with a small rib of lead in the same. The lode being stoped from end of winze in the bottom of the adit level, on south branch, is about 1 ft. 1 in. in width, composed of clay slate and spar, with but little lead at present. I hope, however, to see it improve very shortly. The cross-cut in the 20 is being pushd forward, but no lode is cut as yet.

NORTH LAXEY.—R. Rowe, Aug. 22: I have been all through the mine to-day, and do not see anything new of importance to report. At the new or 16 level the men have just got under way to start off the ends in the rock, but no lode has yet been taken down. This will be done next week. In the 14 we have still a good branch of ore going off east in the cross-cut. The stopes are yielding much the same as reported in my last. The new dressing machinery is well advanced, and I expect will be at work before the time agreed for.

OOLA HILLS.—John Phillips, Aug. 22: No change in this mine since my last report; we fully believe we are near a course of ore in the 23 driving east by cross-cut, on No. 1 north lode; the end is letting out water, and the lode is 2 ft. wide; a fine-looking lode. We are now shooting bucket rods together, and shall drop another 3 fms. of pumps this evening

PARYS MOUNTAIN.—T. Mitchell, Aug. 23: We have to-day met with another branch in the 90 south containing copper ore of good quality, and the ground presents a very promising appearance. I enclose a small sample of the ore just taken from the forebreast. The trial at the 30 is improving daily, and we hope to cut up some good tribute ground here. No change elsewhere. Saturday next will be our setting day.

PATELEY BRIDGE.—C. Williams, Aug. 23: The Rake vein, in the 30, east of engine shaft, is very strong, and of a very promising character, principally composed of quartz, gossan, fluor-spar, and rich lead ore, producing of the last 1½ ton per fathom; the ground is very porous, and favourable progress is made. The same vein in the 30 west still continues of the same favourable masterly appearance, carrying a fine leader of lead ore on the north wall, worth 1 ton per fathom. I have every reason to believe that we shall enter into some rich ore ground here shortly. The vein in the stope in the back over this level, 6 ft. in width, and producing 1½ ton of lead ore per fathom; ground favourable for dispatch. The Lumb vein, going east from the south cross-cut, in the 30 west, is looking excellent, being over 12 ft. wide, and worth for the part cut (5 ft.) 1¼ ton of lead ore per fathom. The south part of the vein is also opened out some good paying ore ground; should this important point continue to come

as at present it will enhance the value of the mine very considerably. Field-
in vein, over the 20 north-west, is without change, worth 1½ ton of lead ore
fathom. The Sun vein, going east under Gilfield's level, is worth 1 ton of
ore per fathom. We have 15 tons of pig-lead smelted, and dressing and
ing are proceeding regularly.

DRA CONSOLIDATED.—W. Tregay, Aug. 23: The mines are
ing well, and producing their usual quantities of tin. The lode in the 90 west
has improved, and is now worth 60*l.* per fathom. Other places continuing as
by represented.

NAN.—Aug. 23: I am glad to say that the engine-shaft is going down
ously, and from the congenial nature of the killas through which we are
ing I feel sure the lode will be rich where intersected. I notice since my last
that change having taken place in the 80 east, and the specimens taken there-
are very satisfactory; but finding the branch of the lode giving off north, I
ed this for the present, an i put the men to drive on the main part of the
ade, in which we are still 4 fms. to drive to get under the productive ground in the 60.
ing set in this level is in beautiful mineralised ground. The 60 east is look-
very promising, the stopes in the back producing some nice lead ore. Our
from the dressing-floor are much improved.

BLIMMON.—John Garland, August 22: Owing to delay in delivery of
the casing and dividing of the new shaft from the 24 to the 36 has not been
ished, but will be, I hope, in a few days, when operations at the 36 will be re-
ed at once. In Jones's winze, sinking below the 24, the lode is large, composed
of spar, blende, mundic, and occasional spots of lead ore, but not suffi
ciently rich to value; this winze is now down about 11 fms. In Herbert's winze, sinking
on the same level, the lode is of a very promising character, which since last
has been worth fully 1 ton of lead ore per fathom, but has now declined to
. This winze will shortly be deep enough to commence driving the 36 east
from therefrom, where I have every confidence in my expectations of opening
ground being realised. In the stope over the 24, east of new winze, the lode
fluctuating in its yield; present produce, 10 cwts. of lead ore per fathom.
stope over same level, east of last named, the lode is also bunchy, averaging
of fully 1½ tons of lead ore per fathom. In the 24 west, on south part of
the lode produces ½ ton of lead ore per fathom, leaving moderately productive
ground above, which seems to improve as height is obtained. During the
week but little progress has been made towards sampling, the drawing ma-
chine having been engaged in hauling deadstuff from penthouse and that
from the ground standing in shaft, mentioned in paevious reports. We
have a good pile of leadstuff broken, which will now be hauled to surface, and
sampled as soon as possible. On Monday night we had a very heavy
remarkable as soon as possible. On Monday night we had a very heavy
Eastern, with rain, which has done considerable damage in the neighbour
hood; I am glad to say that we have escaped with very trifling damage. The
, but I am glad to say that we have escaped with very trifling damage. The
machinery throughout is in fair working trim, and doing good duty.

MAN GRAVELS.—Arthur Waters, Aug. 23: The 50, south of Stokes' winze,
ldens 3 tons per fathom. The 65, south of ditto, is worth 3½ tons per fathom.
The south of Wilks' winze, south of shaft, is worth 2½ tons per fathom. The
north of said shaft, is worth 1 ton per fathom. The 70, north of Powell's
lode is worth 5 tons per fathom. Other points as for some weeks past. We
have to-day sold 175 tons of lead ore, the produce of July, realising 2130*l.* 12s. 6d.

TH CONDURROW.—W. Rich, W. Williams, H. Abrahams, Aug. 22: We
are sinking the Plantation shaft as deep as the 30 by the end of next week. There
is nothing new to report on in the 30 end west; this level is not yet driven far
enough to meet the shaft referred to. The rise in the back of the 50 east of cross-
cut is holed to the bottom of the 40, which has given good ventilation in this
part of the mine. The 40 end is worth 5*l.* per fathom. The 40 east is worth 8*l.*
per fathom. The 50 east is worth 7*l.* per fathom. The 50 west carries low quality
lead ore. The rise in the back of the 60 west is worth 15*l.* per fathom. The lode in
the bottom of the 60 is worth 12*l.* per fathom. The rise in the back of the 70
is worth 18*l.* per fathom. The 70 end west is worth 10*l.* per fathom. We
have sampled computed 19 tons of copper from this end. The lode in the 80 end
is improving, and the ground easier for driving; the lode is worth 7*l.* per
fathom. The 90 west is worth 8*l.* per fathom.

TH DARREN.—H. James, A. Gundry, Aug. 21: Setting Report: All
well the 90 will be drained shortly, when the different bargains will be pro-
ceeded with. The 80 to drive by six men, at 9*l.* per fathom; the lode has im-
proved, and there are indications for a further improvement as we advance.
The 40 end 2 stopes, in back of this level, to stope at 85s. per fm.; value of former,
per fathom: latter, 8*l.* per fathom. No. 3 stope at 3*l.* 10s.; value, 7*l.* per fm.
No. 4 stope at 3*l.* 10s.; value 8*l.* per fathom. The shaftmen have finished stoping
the ground in the sole of the 80, and secured the tramroad; they are now en-
gaged cutting out the side of the 70 preparatory to sinking a winze about 15 fms.
below the bottom of the 80 end. The 25 tons of ore sold on Saturday last realised
£8 4*l.* The machinery is working well.

TH ROMAN GRAVELS.—J. W. Powning, Aug. 23: Shelfield: Yesterday
we broke into a large cavity in the 45, east of shaft; there is a strong wide course
of spar, spotted with ore, standing on the south or hanging side of the cavity
which is now being stripped off, and which looks very promising for an early im
provement. The 45 west is also looking more promising; the lode has become
well settled, and is letting out a good feed of water.

TH VOLCANE.—W. Rich, W. Hambly, Aug. 22: Fraser's lode, in the 50
is without material alteration. We have suspended this end for the time,
and the men to drive north from the bottom of the trial shaft, with the view
to meet the great tin lode. The 50 cross-cut north is being urged on by six
men as fast as possible. The lode in the bottom of the north shaft is about 2 ft.
wide, composed of flour-spar and good spots of copper. This is as promising
looking lode for copper as can be seen at the depth. The men are now engaged
in ladders, and doing other work preparatory to sinking the shaft deeper.
Ore sampled (computed) 17 tons of copper ore.

PARK.—W. Francis, Aug. 22: I have put the men in the 120 yards cross-cut
to open the ore ground recently found in the cross course so as to prove this
lode proceeding with the cross cut northwards, at which end the rock has
changed into a lighter colour, and in a very congenial one for lead ore depo-
sition. The chert cross cut at the 60 yards level proceeds very satisfactorily, in
ground in virgin ground, now gradually approaching the basin of chert which
has proved so rich at the Maesby and St. George's Field Mines adjoining.
Aug. 23: I am glad to say we have seen a little lead ore in sinking below the
60 fathom level.

ERVILLE.—A. Waters, August 23: The 192, east and west of Watson's
shaft, is still in hard ground; the lode in each end is worth at least 2 tons of lead
per fathom; we are not far enough in either direction to reach the principal
course of ore. We are expecting a cavity in the west end, when a rich lode may
be looked for. The 180 east is worth 1½ ton per fathom. The winze below the
same level is worth 3 tons per fathom. The 180 west is worth 2 tons per fathom.
The east cross cut, on No. 1 north lode, is worth 1 ton per fathom. The
west of the cross-cut, on old lode, is worth 1 ton per fathom. The stopes and
points as last reported. On Thursday night last the whim-rope broke, and
falling with about 16 cwts. weight of orestuff fell from near surface to the bot
tom, causing considerable damage to the shaft, and much delay to the output of
ore. Everything is now in good working order again. Our sampling to-day
of 20 tons, in consequence of the said mishap.

GOLD CONSOLS.—W. C. Vivian, Aug. 23.—We are now making better pro-
gress opening westward in the south part of the lode, where we are carrying on
a piece of about 4 ft., in which it produces blende, crystallised yellow mundic,
and strong copper ore. The rock is much easier for driving through than towards
north, and I consider that the appearances are improving as we advance; in
fact they are much the same as those presented in West Tolgus, previously to
reaching the great course of copper ore in that mine.

GOLDEN CONSOLS.—J. Gifford, Aug. 22: Ward's engine shaft is down
15 ft. below the 30; ground a little more favourable for progress, intermixed
with small veins of quartz and sulphuric mundic. The winze in the bottom of the
level, under the grass shaft, is down 2 fms. 2 ft. 6 in.; lode 3 ft. wide, com-
posed of quartz, capel, and occasional stones of lead and blende ore. We are
trying all we can on the silver branch to see if we can make it marketable, and
if not a profit, and have taken an average sample of the lode in the winze to
be assayed.

GILLIOLI WOOD.—W. Goldsworthy, Aug. 23: The lode in the 56, west of
shaft, is worth 12*l.* per fathom, but owing to the large stream of water coming out
the end our progress is not so good as we could wish. The lode in the 34, west
of shaft, is worth 7*l.* per fathom. The lode in the back of this level is worth 17*l.*
per fathom.

ISLE OF CONWAY.—John Roberts, Aug. 22: Rabbit Lode: Since my last
have done nothing on the lead part of the lode. This is set to two men, at
£8 per fathom.—East and West Lode: The lode here is very much the same as
last weeks; there are occasionally large vughs in it, which make rich lead
in parts of them; let to four men, at 14*l.* per fathom.—Main North and South
Lodes: We have cleared the adit here, and have commenced stoping down a piece
of ground so as to get at some lead ground gone down in the bottom of the level;
let this to two men, at 5*l.* 5s. per fathom.—Surface: The engineers have left
us, having completed the erection of the wheel and crusher. We are hurrying
as fast as possible with the making and fixing of the launders, and I hope to be
able to commence crushing in a month.

WEST ASHETON.—John Craze, J. Manley, Aug. 22: The 80, west of boundary,
has been extended 74½ fms.; set to two men, at 5*l.* 10s. per fathom; the lode is
2 ft. wide, composed of spar, blende, and lead ores, worth of the latter
£8 per fathom, and very promising for a further improvement. We have two
men stopping down lode and putting in timber in this level preparatory for stop-
ing; notice shall be given in a few days. The two rises in back of this level have
not been sought. We have set the following tribute pitches:—Two men in
back of the 60 west at 7*l.* per ton. Two men in back of the 50 west at 7*l.* per ton.
Spots of lead, 10 tons, for Messrs. Weston, Son, and Co., and we are pushing on
the working for another parcel to sample as soon as possible.

WEST CHIVERTON.—R. Southey, William Roberts, James Moyle, Aug. 22:
Setting-day we set the following points of operations:—Batters' engine-shaft
sinking below the 160, 10 fms. certain, at 40*l.* per fathom; lode 4 ft. wide, worth
£10 10s. per fathom. The 160 to drive west of Batters' shaft, by six men,
10 fms. certain, at 7*l.* 10s. per fathom; lode 2½ ft. wide, worth for lead 20*l.* per
fathom, at 7*l.* 10s. per fathom; lode 2¼ ft. wide, and worth fully 10*l.* per fathom.
The 140 east of Batters' shaft, on north lode, 4 ft. wide, is worth for
lead 15*l.* per fathom. The 130 to drive east of shaft, on north lode,
Burgess shaft, by four men; the lode is 4 ft. wide, and worth for lead and
blende 10*l.* per fathom. The 120 to drive west
£8 10s. per fathom. The same remark will apply to the 120, east of Burgess
shaft. The 140 to drive east of Hawkes' shaft, by six men; lode 2½ ft. wide, worth
£8 10s. per fathom. In conclusion, the underground operations generally
speaking are working at well as usual.

WEST GODOLPHIN.—John Pope, Aug. 17: Setting Report: Caunter: The 70,
from shaft, by nine men; these men are engaged cutting ground for bearers
for the skips, preparatory to fixing the lift at that level. To drive the 70 north, by
two men, at 6*l.* per fathom; lode 3 ft. wide, worth 4*l.* per fathom, producing tin.
To sink in back of the 60 west, by six men, at 6*l.* per fathom; lode small.—Wilson's: To
drive the 60 north, by two men, at 6*l.* per fathom; lode 6 ft. wide, worth
£8 per fathom, producing tin and copper. To stope in back of the 60 west, by
six men, at 6*l.* per fathom; lode 6 ft. wide, worth
£8 10s. per fathom, producing tin and copper. To stope in bottom of the 60 west, by
six men, at 6*l.* per fathom; lode 5 ft. wide, worth
£8 per fathom, producing tin and copper. To drive the 60 east, by two men, at 10*l.* per fathom; lode 1 ft. wide, low
grade. To stope in back of the 60 east, by six men, at 8*l.* per fathom;
lode 1½ ft. wide, worth 15*l.* per fathom, producing tin. To stope in bottom of the
60 east, by 12 men, at 10*l.* per fathom; lode 12 ft. wide, worth 20*l.* per fathom,
producing tin and copper. To stope in bottom of the 50 west, by six men, at
£8 per fathom; lode 7 ft. 6 in. wide, worth 18*l.* per fathom, producing tin and
copper. To stope in bottom of the 50 west, by six men, at 5*l.* per fathom; lode
5 ft. wide, worth 10*l.* per fathom, producing copper. To stope in bottom of the
50 west, by six men, at 4*l.* per fathom; lode 4 ft. wide, worth 8*l.* per fathom,
producing tin. To stope in bottom of the 50 west, by six men, at 3*l.* 10s. per
fathom.; lode 5 ft. 6 in. wide, worth 12*l.* per fathom, producing tin and copper.
To stope in back of the 50 west, by four men, at 4*l.* per fathom; lode 5 ft. wide,
worth 10*l.* per fathom, producing tin. To stope in back of the 50 west, by two
men and two boys, at 2*l.* 2s. per fathom; lode 2 ft. wide, worth 4*l.* per fathom,
producing tin.—Pink: To drive the 50 west, by four men, at 10*l.* per fathom;
lode 7 in. wide, poor.—Wilson's: To drive the deep adit west, by two men, at
3*l.* 10s. per fathom; lode 3 ft. 6 in. wide, worth 3*l.* 10s. per fathom, producing
tin. There are six men employed stripping the sides of the 60 (towards the bot-
tom of the level) east, on Wilson's lode, who are breaking good quality tinstuff.
There are 12 men employed on Pressure shaft getting it in order for the new pit-
work, which is being pushed on as fast as possible, also the erection of the new
engine, and four men securing the adit level.

WEST ROSKEAR.—S. Stephens, W. Bennetts, Aug. 23: We have placed the
sumpmen to clear and prepare for dropping the lift below the 12 fm. level with as
little delay as possible, and consequently but little has been done in the 12 end for
the week, the lode in which is without any particular change since our last report.
The dressing of the ore is progressing satisfactorily.

WEST TANKERVILLE.—A. Waters, Aug. 23: There is no change of note in
this mine since my report dated Aug. 16. We have to-day sampled 35 tons lead
ore, for sale next week.

WEST TOLGUS.—August 23: Setting List: Taylor's sumpmen are engaged
cutting plat in the 145. In the 145 west only a little lode has been broken west of
cross-course, showing good stones of ore. In the 135 west the lode is 6 ft. wide,
yielding 2 tons of ore per fathom. In the 125 west the lode is 2 ft. wide, yielding
3½ tons of ore per fathom. In No. 5 winze, under the 125, the lode is 6 ft. wide,
yielding 4 tons of ore per fathom. In the cross-cut north, from back of the 95, to
make way to put the 9-inch pipes from Gunnis of lode to Taylor's shaft. In the
stope in back of the 135 west, east of No. 3 winze, the lode yields 15 tons of ore
per fathom, worth 120*l.* In the stope in back of the 135 west, east of No. 2 winze,
the lode yields 7 tons of ore, worth 50*l.* per fathom. In the stope in the back of
the 135 west, east of No. 4 winze, the lode yields 7 tons of ore, worth 50*l.* per fm.
The 95 west is holed to Richards' shaft.—Richards' Engine-Shaft: Richards' shaft
to sink under the 95; sinking in lode, which is large, and spotted with ore. In
the 95 west the lode is 4 ft. wide, but poor. In the 75 west the lode is small, with
very little ore. In the 65 west the lode is small, with very little ore. In the 55
east the lode is just dividing the ground. Stope in the back of the 85 west, lode
yielding 2½ tons of ore, worth 10*l.* per fathom. The rise in the 85 west is holed.
We shall see more of the lode in the 145 west by to-morrow; the little that we can
see looks well. We are glad to see the 125 end improving.

WHEAL AGAR.—We have sold 94 tons 4 cwts. 2 qrs. of tin during the year.
The sales for the present month (August) are 15 tons 3 cwts. 2 qrs., which nearly
paid all costs, notwithstanding the present low price of tin. At an average price
of minerals this mine would be a good dividend property.

WHEAL CREBOR.—John Andrews, Aug. 21: There is no change in the 120
east, as we are still driving on the north part of the lode. The lode in the stope in
the back of the 120 is worth 10*l.* per fathom. The lode in the 108 end east is 3 ft.
wide, and worth 8*l.* per fathom. The lode in the west stope in the back of the
108 is 5 ft. wide, worth 12*l.* per fathom. The lode in the east stope in back of the
same level is 4 ft. wide, worth 8*l.* per fathom. There is no change in the 72 or 48
east ends.

WHEAL GRENVILLE.—T. Hodge, J. Hosking, Aug. 23: The north shaft is
below the 140 about 6 fm. 4 ft. The lode in the 140 west end is not looking quite
so well for tin; present value 8*l.* per fathom. The 130 east end is worth 9*l.* per
fathom.—Western Shaft: The 150 east end is worth 6*l.* 10s. per fathom. The 130
east end is worth 7*l.* per fathom. The 130 west end is worth 7*l.* per fathom. No
other change in the bargains; the stopes, on the whole, are turning out much as
usual.—Surface Work: We have finished taking out the foundation for the boiler-
house, steam capstan, &c., and the masons will commence to build at once. The
engineers have fixed the main beam of our engine, and we are now engaged get-
ting in the cylinder-bed stones. We are laying out our floors preparatory for the
two new axles; everything is being pushed on with the utmost vigour. I have
arranged for two boilers, with all fittings, provided they stand the the test of
80 lb. pressure.

WHEAL KITTY (St. Agnes).—Stephen Davey, Richard Harris, Aug. 18: The
various points of operation throughout the mine maintain their size and value as
reported last week.

WHEAL MARY HUTCHINGS.—Henry Miners, Aug. 22: I am pleased to in-
form you that the new arsenical works are still progressing very satisfactorily,
and we hope all will be well to light the kilns on Monday week, September 3.
We have also still a very fine lode for that mineral, and have over 300 tons already
broken for treatment as soon as the kilns are ready to work.

WHEAL NEWTON.—H. Bennett, August 23: We have cleared up the engine-
shaft to the present bottom, which is 4 fathoms below the 40. At this point the
Harrowbarrow and the silver or well lodes form a junction, and have a very fine
appearance. We shall now commence to drive east and west from this point, also
to cut a tip-plat. At the 40, east of Cook's, the lode is improving, and I think we
shall shortly have a good lode here, a large quantity of water issuing from the end.
The stope in the back of the 40 has improved, and is now looking very well for
silver. The silver lode in the 30, east of Cook's, has a very promising appearance.
—Hampton's Shaft: We are down about 3 fms., and hope to cut the lode next
week. All other points of operation are without change.

WHEAL PRUSSIA.—W. Tregay, Aug. 23: The lode in the 30 west end con-
tinues quite as good as last reported; producing 2 tons of black tin per fathom.
The new engine-shaft is being got down speedily; now down 19 fms. The water
being nearly all gone in the bottom of the whim shaft we expect to resume sink-
ing it next week; the lode there when left off was producing about 1 ton of black
tin per fathom.

WHEAL RUSSELL.—J. Bray, Aug. 23: The lode in the 25 is 5 ft. wide, and
producing beautiful stones of copper ore; very promising for a good discovery.

WHEAL UNY.—W. Rich, M. Rogers, J. Rich, Aug. 18: The lode in the bot-
tom of Hind's shaft is worth 16*l.* per fathom. The 160 end east is worth 7*l.* per fm.
The 160 end west is worth 10*l.* per fathom. The 150 west is worth 8*l.* per fathom.
The 150 east is worth 7*l.* per fathom. The 140 east is worth 9*l.* per fathom. The
130 east is worth 8*l.* per fathom. The back of the 60 west is worth 7*l.* per fm. We
have sold to-day 17 tons 14 cwts. 2 qrs. 27 lbs. of tin.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, Aug. 20: Produce eight days (first division of August), 12,250 oits.=4746*l.*; yield, 9·0 oits. per ton. General work in mine and on surface going on well.

DON PEDRO.—Capt. Vivian, July 24: Mine: No. 8 Shoot: We have been obliged to suspend No. 3 stope in consequence of the ground being very wet. I am pleased to mention, however, that the lode in the same was left looking quite as well as it has been for some time past. Nos. 2 and 4 stopes are being worked, and as soon as extended on sufficiently eastward, so as to have a larger field to operate in, there is no doubt No. 3 can then be resumed. It is very likely that I shall be able to report favourably of No. 2 stope ere long. Improvement in No. 4 is also anticipated.

— Mine captain's letter, July 24: The mineral has again been taken from the Nos. 5, 6, and 8 shoots, and the average of the general work is of a moderate quality. Stoping operations have been carried on in Nos. 5 and 6 shoots without change. From the western stopes on No. 6 shoot, at the horizon of the adit, a driving has been driven, and communicated to the old south incline to ventilate the stopes.—No. 8 Shoot: Stoping operations have been carried on in Nos. 2 and 4 stopes. No. 3 stope is suspended in consequence of water.—Prospective and Running Work: The driving from the new level is communicated to Vivian's shaft, and the force from the same put to reopen the level to its full size required. Repairing of Vivian's shaft has been kept on, and all work in connection with permanent pumping machinery being pushed forward with all speed.

— Telegram: Aug. 23. Produce cleaned up (first division August), 1600 oits.

PITANGUI (Gold).—Mr. Hilcke, Pari, July 12, reports that the adit had been extended 3 fms. 1½ ft. during June, the ground in the same remaining very hard and difficult for quarrying. The total length from the mouth to the end of the adit was 64 fms. 5½ ft. It was reported that softer ground would be met with in a few fathoms further driving. The level for exploring the bed of jacotinga at Morro das Almas had been extended during June 12 fms., leaving about 25 fms. further to be driven before intersecting the bed.

RICHMOND CONSOLIDATED.—The directors have received the following telegrams from San Francisco:—Court has announced generally its decision against us, denoting finding of facts and law not settled. We believe there are sufficient errors to reverse in Supreme Court.—S. WILSON, T. WREN.——Decision against law and facts; we hold possession during prosecution of appeal. Ore above fourth level rich, and quality increasing.—PROBERT.

— R. Rickard, July 30: The rise in the back of the 400 is now up 25 ft. above the Eureka seventh level, the top of the raise is now in limestone. The 400 drift is being driven on the quartzite in a westerly direction; the end at present is poor, but it is looking very promising for ore. All other parts of the mine are without change since my last.

BLUE TENT.—D. T. Hughes, July 28: We set off the small blast in blue lead, mentioned in last week's report, with good results; this improves the chances for another blast now in course of construction very much. The drifts of the latter are progressing favourably, and will soon have them ready so as to construct the powder-chamber. I have also the flumes and ditches on this claim completed, and pipes laid so as to enable us to wash whenever we have any water we can spare. In South Yuba Mine we wash very steadily during the whole week, as you will observe per report nearly 12 hours per day, and using with the two monitors that we have here in place an average of 1400 in. of water, and if the water will not fail any sooner than we expect we have strong hopes of making quite a good clean-up next time.

CEDAR CREEK.—T. B. Ludlum, July 20: On the evening of the 11th inst. I exploded the large blast in the Baker claim, of which I have written before. To prevent the shaft from filling we placed large timbers therein, 20 ft. below the surface of the bed rock, and covered them with gravel and boulders to the depth of 15 ft. In order to again open the shaft and to wash the gravel immediately surrounding it, so as to make it safe to wash therein, we raised an incline from below the timber to the surface of the bed-rock, extending out some 60 ft. to the front. The concussion, however, was too great for the resistance of the timbers, and they broke, letting the shaft fill to the surface. We have a string of pipe running up to the bottom of the shaft below, and through this we are washing the gravel out. We have been engaged at this work vigorously ever since the blast, but not till to-day did we lower the gravel on top sufficiently to put in another set of timber to prevent the mass from above rolling down and repeatedly refilling the shaft; it will now take us only a short time to clear the lower part of the shaft, when we will resume washing. The blast was a splendid success, and crumbled the hard material well, loosening up the bank about 150 ft. behind the shaft. I am doing no work except washing in this claim, and have reduced the number of my employees to the minimum. We have not yet commenced drawing our mountain reservoirs, as I am holding that water in reserve to enlarge the opening in the Baker claim.

I.X.L. (Gold and Silver).—Lewis Chalmers, July 30: Enclosed pleased find foreman's report for the week ended Saturday, from which you will see that with the same force we are beating the contractors hollow—11 ft. this week, while they rarely exceeded 8 ft., and we have more water to contend with. The lode in the 200 is gradually improving. I shall have five men on the road, which I shall push as hard as I can, having no way of getting timber and lagging except from the ranch, to which I am making the road. I shall also save when the road is made $3 a cord in packing wood; this is done at present by mules, and cost $4 per cord. The brick kiln 100,000 is finished and paid for.—"*July* 28: I have to report as follows:—The north drift is now in 588 ft. from the cross cut on the 200 to face; 13 ft. driven this week, and the said drift is looking better now than it has for some time; the formation of the ledge is more regular, more solid, and pitching 70°, running 25° west of north, with a strong flow of water from the face. The ore in the face is the same character of ore found in the old upper tunnel before the rich ore body was reached, 3½ ft. of solid ore in the face apparently medium quality. The engine shaft is progressing well, though water increased considerably this week. Water tapped in the south-west corner of the said shaft, and some small streaks of ore; 11 ft. sunk this week, and well timbered to near the bottom; total distance down from the 200 station 88 ft. The wood road is progressing well, and nearly completed from schute to the head of Adolphus Canon. Everything in and about the mine is running and working well."

HUNTER CONSOLIDATED.—G. P. Armstrong, July 22: Water: The water is now delivered at the furnace, and we have made a contract for supplying the town at 1 cent per gallon, the contractor selling it at 1½ cent. We have sufficient pipe to distribute the water through the town, which we shall do later. We have constructed a large tank on the hill at the back of the furnace with an elevation of 60 ft. above the furnace, thus commanding a supply of water in case of fire.—Ore from Crown Point Mine: We have shipped 40 sacks of high grade ore extracted during the last few days from Crown Point Mine; this ore will probably assay $600 per ton.—Vulcan Mine: Hoisting works will be in order in three days, when sinking of shaft will be resumed, and levels run preparatory to extracting ore. Furnace work is being pushed on rapidly, and is further advanced than the mine work, but now that hoisting works in Vulcan are nearly completed the work there will be rapid.

BENSBERG.—C. Craze, Aug. 20: Victoria Shaft: Since my last we have met with a floor at this shaft, dipping in a south-westerly direction, or very nearly at right angles with our lode, and by which the latter has been a little disturbed, and is now rather unsettled. We have blasted under this floor, and have had some good stones of lead and blende out of the same, but we shall not be able to state the full effect it has produced on the lode until we get deeper. The 22, west of the shaft, is in a very promising lode, and is producing good work for lead and blende—rather improved in the last week. The 22, east of the shaft, is producing about 1 ton of blende per fathom, with a little lead. The 14 east is in kindly ground, which contains small pockets of carbonate and stones of galena. We have not met with anything of value in our trial shaft east of opencast. We have, therefore, suspended the same for the present, and have put the men to sink trial pits to the west of the dressing floors. Our engine and pitwork have been working well during the past week, and all our points are being pushed on with vigour.

BRITTANY MINERALS.—John Edwards, Aug. 18: The sump shaft is now sunk 4 fms. 4 ft. below the 70; we have met with a cross-course in the north end of the shaft, which has disordered the lode for the present; it is now worth about 10*l.* to 12*l.* per fathom for lead ore, but no doubt after we pass through the cross-course it will again become productive for ore. I beg to say that the shoot of lead ore going down in the bottom of the 70, south of shaft, is dipping north towards the sump, which I calculate will be met with in the shaft at or about the 80. The ground sunk during the past week is 2 ft. In the 70 end, driving south from sump-shaft, we have met with a hard bar of ground, which has pinched up the lode for the present; it is now 8 in. wide, and worth about 6*l.* per fathom for silver-lead ore. I think this change is only temporary, and no doubt after we pass through this bar the lode will become productive. Ground driven during the past week, 6 ft. The lodes in Nos. 1 and 2 stopes in the back of the 70 are worth respectively 12*l.* and 25*l.* per fathom for lead ore. We shall commence to sink a winze in the bottom of this level in the shoot of ore, where it is worth from 25*l.* to 30*l.* per fathom. This is the same run of ore that I expect to meet with at or about the 80 at sump-shaft, which I calculate to reach in the course of three months from this time. Ore raised since last report, 6 tons.

ECHOES FROM THE MINING MARKET.

The dull state of trade, the low value of metals, and the holiday season combine to keep the mining market in a very quiet condition. The continued supplies of Australian tin are tending to create further reductions in the price of tin here, and the Cornish standards have already again been lowered. Black tin is now under 40*l.* per ton—an utterly unremunerative price. Still some of the Cornish mines continue to keep going; and at Botallack meeting last week it was stated that dull as were the prospects with tin dropped from 90*l.* to 40*l.* the mine looked far better than when tin was at the former price, for good discoveries had been made, and better ones were expected when the ground between the 150 and 180 in Carnyorth had been wrought upon. In the Wheal Loor part also ground had been broken at 20s. per fathom, which would turn out a ton of tin to the fathom. So here we find some set-off to bad prices, and if the cost of labour could be minimised by the general adoption of machine work the condition of Cornish mines would not yet be utterly desperate. Coals and materials generally are extremely low in price, so the cost of working now that tin has fallen to 40*l.* is much less than when it was at 90*l.* With the most economical management therefore—and to do the Cornish managers justice they are fully alive to the absolute necessity of the strictest supervision over outgoings—Cornish mines may yet be able to tide over the crisis caused by the miserable prices now ruling in tin. Of course everything depends upon the course of the market, and should quotations fall another 5*l.* per ton matters will look very grave indeed.

The important discovery of silver at Wheal Newton has created considerable interest in the district, and has attracted a good deal of attention. Mr. Warington Smyth, in lecturing on Cornish mining last week at the Plymouth Guildhall before the British Association, referred to the discovery as an interesting one from a scientific point of view, because it gave an illustration of parallel lodes "coursing side by side," to use the lecturers expression, occupied by mineral substances of two different classes. Thus, at Wheal Newton that to the south is a mere mundic lode, whilst the northern one parallel to it but inclined in the opposite direction is a flookan exhibiting a fine course of ruby silver ore, worth, said Mr. Warington Smyth (and here comes the interest from the commercial point of view, the only one of course for the shareholders), "hundreds of pounds for every fathom." The Wheal Newton discovery should be of great interest to the Prince of Wales shareholders also, for we believe the silver lode runs through their sett.

The news of the adverse decision in Richmond has caused a sharp fall in the shares. The price which was over 6*l.* in the early part of the week closes 4 to 4½. The judgment, in favour of the Eureka Company, is to be appealed against.

JAMES H. CROFTS.

THE WEEK.

SATURDAY, AUG. 18.—Day by day there is an increased absorption of the class of speculative securities which were hastily thrown away at the commencement of the war in the East by nervous holders to fall into the hands of others who are now reaping the harvest. That they are doing well is sufficiently shown by the marked rise in Turkish, Mexican, and Spanish bonds, and likewise in American railway securities. To-day the same class of business was going on in bank shares. Anglo-Austrian realised 7¼, quite recently done at 5¼. Bank of Constantinople, now valued at 3*l.*, was selling a month ago at 1*l.* 10s. In both Bank of Roumania and Imperial Ottoman a rise of 5s. took place.

MONDAY.—In reference to the pending lawsuit, the Richmond Mining Company had a cablegram this morning stating that the decision was deferred for a few days. This was construed favourably, and the shares improved to 6. New Zealand Kapanga shares continue very flat, and cannot now be sold at much over 20s. Argentine are nominally 2 to 2½, but utterly neglected. Cedar Creek and Birdseye Creek offered at 10s.; Gold Run and Javali at 7s. 6d.; Rookhope, ⅞ to 1; Glenroy, 20s. to 22s. 6d.; Parys Mountain, 9s. to 10s.; Roman Gravels, 9½ to 9¾. Tankerville, 6½ to 7. Railways rather dull, British still drooping, and down to 94. Great Western neglected, and not better than 103¼, as against the 105¼ current a few days ago.

TUESDAY.—The Great Western dividend of 3½ announced to-day was regarded as insufficient—3¼, same as last year, was expected. The stock declined to 102*l.*, or 1¼ lower. The Bristol and Exeter, also the Cornwall Minerals Railway, drain away a lot of money from the Great Western proprietary. The shareholders of Lawe's Chemical Company are to have a dividend of 8 per cent. (ordinary and preference alike), after which a balance of over 11,000*l.* will be carried forward; the shares are 7¼ to 7¾. The directors of the Native Guano Company in their report complain of the difficulties encountered in trying to induce public bodies to adopt their process. The shareholders are to have the option of some of the unissued 5*l.* shares at par, with the addition of 5s. per share prem. Similar shares were dealt in to-day at 2*l.* Eberhardt a trifle firmer—5⅜ to 5⅝. Rookhope, 17s. to 19s. North Laxey, 14s. to 1l.

WEDNESDAY.—Eberhardt dull to-day, and only 5⅛ to 5⅜. To this price Richmond suddenly declined in the afternoon. The law decision should be known to-morrow. West Tolgus were credited with a rise of 4*l.*—rather nominal though. Argentine quoted 2 to 3, but almost impossible to deal in. I.X.L., ⅜ to ⅝. Exchequer, ⅛ to ⅜. Van shares remain 32 to 34, and keep remarkably steady, considering the serious difference the heavy fall in lead must make in so large a mine. Van Consols, ⅜ to ⅝, but no dealing much in them. Penstruthal, 5s. to 7s. Leadhills, 5½ to 6. Huitafall, 5 to 5½. South Condurrow, 6½ to 7. Wheal Crebor, 1 to 1¼. Wheal Kitty, 1½ to 2. Wheal Grenville, 1¼ to 1½.

THURSDAY.—There were rumours current to-day adverse to Richmond. The shares opened 3¾ to 4, or 1½ lower, and closed 4 to 4¼. The report of the Consolated Iron Company is a very satisfactory one; a profit of over 83,000*l.* has been made. There was a distribution of 7s. 6d. per share in February last, a further dividend of 15s. will now be paid, and a large balance carried forward. A marked recovery took place in Egyptian stocks; the preference stock rose 1*l.* Railways were benefited by no alteration being made in the Bank rate. The principal rise was in Brighton, A, Caledonian, and Sheffield.

FRIDAY (*Opening*).—Railways do not seem inclined to maintain last night's prices, but foreign bonds are firm. Russian 1873, 79½ to 79¾. Egyptian Preference, 59⅝ to 59⅞. Unified, 36¾ to 37. Richmond shares are slightly better, and quoted 4½ to 4⅝. New Zealand Kapanga, ¾ to 1¼. Eberhardt and Aurora, 5⅜ to 5⅝. Flagstaff, 2⅝ to 2⅞. Birdseye Creek, ⅜ to ⅝. Don Pedro, ⅜ to ⅝. Van shares are quoted 30 to 32, or 2*l.* lower on the week. Aberdaunant, ⅜ to ⅝. Belstone, ⅜ to ⅝. Combmartin, ¼ to ½. Herodsfoot, 4½ to 5. East Van, 4¾ to 5. Holmbush, 1¼ to 1½.—*Two o'Clock.*—British are 92½ to 93¼, and Caledonian 129½ to 129¾, which is ⅝ lower in each case, but District are exceptionally firm, and up to 51, 51¼. Glyn, 10s. to 15s. North Laxey, 15s. to 17s. Hultafal, 5 to 5½. West Tankerville Preference, 1½ to 2. Wheal Crebor, 1¼ to 1¾. Llanrwst, 2⅛ to 2⅜. Wheal Kitty, 1¼ to 1¾. New Zealand Kapanga shares are rather better—1¼.—*Four o'Clock.*—Consols are quoted 95 3-16ths to 95 5-16ths, or 1-16th lower. Business has been done in Native Guano shares at 3¼, and in Flagstaff at 2⅝. Ailtami Colliery Company, 4 to 4½. Chapel House, 2¼ to 2¾. Cardiff and Swansea, 1¼ to 1½.—*Birchin-lane, Aug.* 24.

FERDINAND R. KIRK.

MR. FREDERICK WARWICK, accountant, of Bucklersbury, London, and Swansea, has been appointed the liquidator of the Illogan Tin and Copper Mining Company (Limited), and joint liquidator of the South Wales Smelting and Colliery Company (Limited), and the Cape Cornwall Mining Company.

PENNERLEY MINING COMPANY (Limited).—Mr. Justice Lopes acting for the Master of the Rolls, has fixed Aug. 30, at the Chambers of the Master of the Rolls, for the appointment of an official liquidator of this company.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, AUG. 24, 1877.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde..	2 15 3-	—
„ Scotch, all No. 1 ...	2 16 0-	3 10 0
Bars, Welsh, f.o.b. Wales	5 10 0-	5 12 6
„ „ in London.	6 0 0-	6 2 6
„ Stafford., „ .	7 10 0-	8 15 0
„ in Tyne or Tees ...	5 10 0-	6 0 0
„ Swedish, London ..	9 10 0-	10 0 0
Rails, Welsh, at works..	5 0 0-	5 5 0
Railway chairs	— -	—
„ spikes	— -	—
Sheets, Staff., in London	8 15 0-	9 0 0
Plates, ship., in London	7 5 0-	7 10 0
Hoops, Staff.	7 12 6-	8 0 0
Nail rods, Staff. in Lon.	7 5 0-	7 12 6
STEEL.		
English, spring	16 0 0-20	0 0
„ cast	35 0 0-45	0 0
Swedish, keg.....	16 0 0-	—
„ fag. ham.	17 10 0-	—
LEAD.		
English, pig, common .	19 17 6-20	0 0
„ „ L.B. nom.	20 5 0-	—
„ „ W.B.	21 0 0-	—
„ sheet and bar..	21 0 0-21	5 0
„ pipe.....	21 10 0-	—
„ red	22 5 0-22	10 0
„ white	27 5 0-28	0 0
„ patent shot ..	24 10 0-	—
Spanish.....	19 12 6 19	15 0
QUICKSILVER.		
Flasks of 75 lbs., ware.	8 0 0-	—
SPELTER.		
Silesian or Rhenish ..	19 5 0- 19	10 0
English, Swansea.....	21 0 0-	—
Sheet zinc	22 10 0- 24	10 0

TIN.	£ s. d.	£ s. d
English, ingot, f.o.b...	68 10 0-	69 0 0
„ bars „ ...	69 10 0-	70 0 0
„ refined.....	71 0 0-	—
Australian	64 0 0-	—
Banca	68 0 0-	69 0 0
Straits	65 0 0-	—
COPPER.		
Tough cake and ingot.	74 0 0-	75 0 0
Best selected	76 0 0-	76 10 0
Sheets and sheathing .	79 0 0-	80 0 0
Flat Bottoms	82 0 0-	83 0 0
Wallaroo	80 0 0-	—
Burra, or P.C.C.	75 5 0-	—
Other brands	74 10 0-	76 0 0
Chili bars, g.o.b.....	68 5 0-	—
PHOSPHOR BRONZE.		
Bearing metal	£112 0 0	
Other alloys	£120 0 0-	140 0 0
BRASS.		
Wire	8d.	- —
Tubes.....	10	- —
Sheets	9	- —
Yel. met. sheath. & sheets.	6¾	- 7½
Nails composition.....	8¾	- 9¾

TIN-PLATES.*	per box.	
Charcoal, 1st quality ...	1 2 6-	1 3 6
„ 2nd quality ...	1 1 0-	1 1 6
Coke, 1st quality	0 19 6-	—
„ 2nd quality	0 17 6-	0 18 0
Black .....per ton	16 0 0-	16 10 0
Canada, Staff. or Gla., at Liverpool	12 0 0-	13 0 0
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—The past week has been unprolific and destitute of any interesting event affecting the metal trade, and the monotony of our market continues unrelieved. Prices have not undergone any material alteration, but the tendency is still downward, owing to the paucity of business and the gloomy state of affairs generally. Nobody shows the slightest disposition to speculate, and holders are now beginning to lose confidence in prices, seeing that current rates do not increase the demand, but, on the contrary, that there is a continual diminution taking place. Something must shortly be done to stimulate the consumption, and there appears no alternative but to submit to further reductions. We are passing through exceptional times, and the necessitous circumstances of the people will no longer admit of their paying former prices, and cheapness must, therefore, constitute the characteristic feature for some time to come. The whole community have suffered such considerable losses from the scandalous repudiations of some of the foreign Governments, and from the robberies of scheming swindling companies, and also from the depreciation of produce, that their incomes are greatly curtailed, and are likely to remain so while the opportunities for making money are so few and restricted. Retrenchment must be the order of the day, and the strictest economy observed. Prices should be brought down within the reach of buyers, and sellers should do everything in their power to create business and not jeopardise it by maintaining prices unduly long. We hope they will make liberal concessions, and by so doing give a stimulus to trade; but no extravagant notions of the immediate future should be entertained, for they would probably lead to disappointments. Even though prices were greatly reduced, trade would not be wholly restored, and at the best we can only expect a moderate demand, and for the strongest of all reasons, because poverty still abounds, and extends far and wide in every direction throughout Europe, Asia, and America, and much time must elapse before the people can possibly recover from their impoverished and exhausted condition; and we fear the severity of the Indian famine will cause a serious loss of trade for a long time, and have a very adverse effect upon our markets. A good harvest is the foundation of prosperity; the failure of the crops must, therefore, be the harbinger of adversity. The power of infusing renewed vitality into the markets is dreadfully impaired, and it would be useless to have recourse to any artificial means, as that would make matters worse. No good can be done until the termination of the war, as that is one of the greatest hindrances to the development of trade, and is certainly one of the obstacles which must be first removed before any general improvement can be looked for; and as long as the injurious effects and influences of war, famine, and poverty are in operation there is no prospect of any probability whatever of the markets advancing, whereas, on the other hand, there is every appearance of their declining, and the present manifest weakness may greatly facilitate a movement in that direction; we trust, however, there will be no collapse, although we must candidly confess affairs have arrived at such a critical stage and assume such a very threatening attitude that we have our misgivings, and every precaution should be taken so as to avoid getting involved. There is nothing more distressing and discouraging to merchants than to have to be continually realising in falling markets, and to see a loss upon imports and consignments; but the lesson is not without its advantages, for it teaches them not to pay too much in the first instance, and not to expect profits before they are derived. Stocks could not have accumulated here to anything like the extent which they have done had it not been for the excessively dear prices originally paid. The fatal mistake is, alas! too apparent, and all importers can do is to sell and save what they can, and repent at leisure.

COPPER.—Australian still keeps the leading position in our market, and the price is maintained with considerable firmness; this arises not so much from an excessive or extraordinary demand as from the strength and capacity of holders and buyers who are desirous of securing this description of copper have to seek for it as sellers are not pressing it for sale or displaying the slightest eagerness to realise. Burra and Wallaroo are still the two favourite brands, and most in request, and as Burra is so much lower in price than the other brand it is of course the most advantageous in that respect for a consumer to buy. Chili bars have been slightly declined in value, but the enquiry is very limited at the reduced price, and the general opinion seems to be that the value is not sufficiently low to promote any activity in business. English is very quiet, particularly manufactured, and no improvement is expected for Indian sheets, as the Indian markets have been well supplied, and the famine will undoubtedly produce a bad effect. The demand must be materially affected thereby, and prices must consequently suffer. As soon as the present contracts run off smelters may experience great difficulty in procuring fuel orders, and in finding sufficient work for their mills, although India forms but one outlet, yet it is a very large one, and the best the smelters have even a temporary deprivation of the demand will be exceedingly inconvenient, but the effects of a famine are not overcome in a day, and a repetition famine in two successive seasons must prove most destructive to general business, and articles of any value are likely to be depreciated more than ordinary things of comparatively small value. The famine in some districts is so severe as to be described in some of the telegram as desperate, and if this is the state of some of the districts, and the whole of the southern part of India is more or less stricken, then it will take at least six months before the trade again reaches its average dimension, it is truly lamentable to hear of the deplorably starving condition of the people, and we hope that England will afford ample relief to our fellow subjects in that part of our Empire.

Were any large orders to be forwarded just now from India merchants would not be very eager to execute them, for they all feel a little anxious about outstanding engagements, for in one or two instances failures have already occurred amongst the natives. The goods have been thrown upon the merchants' hands, and as the markets will be dull and declining for some time, it is anything but a promising prospect for them. Unsatisfactory as it may be to be doing little, yet it is very undesirable to increase risks, and these are times when it is far better to do nothing than to accept unsound business, and this if certainly one of these periods. Next to fire, nothing, perhaps, is more exhaustive than famine, for if the earth fails to yield necessaries for the support of life there is an end to trade. We feel sure that for want of money the consumptive power of the people must become extremely limited. Sellers must forego for a time any further orders for India. Misfortunes seldom come alone, and it is a most unfortunate circumstance that the famine should have been added to the list of woes in the year 1877. A cessation of the Indian demand is quite enough in itself, but owing to the war the demand for Turkey and Russia is much interfered with, for few care to execute orders for these countries without receiving a remittance by the same post. In the absence of mill work we would strongly advise rollers on no account to make Indian sheets to stock; they had much better cease rolling than do so, for it would most certainly result in a loss. By the mail from New York on the 11th inst., the market there is reported lower both for wrought and unwrought. Sheathing is quoted 28 cents, and brazing and bolts 30 cents; yellow metal bolts 25 cents, and lake ingots have fallen to 18¾ cents cash, the reduced prices being the only inducement for buyers to purchase. Our market to-day is unimproved, buyers are very shy, and prices assume a downward tendency.

IRON.—The greatest uncertainty and anxiety exist with regard to this trade, and we are evidently drawing near to a crisis, when some radical change must take place. The business has so completely fallen away and its character so entirely altered that it no longer answers the purpose of the masters to go on making iron. It is not a question of the amount of profit derived from sales, as the manufacture of iron has long since become wholly unremunerative, but a matter of absolute necessity to effect some different arrangement to that which at present prevails, whereby the losses may be reduced and a sounder state of things established. The masters are such heavy losers already that many of them are unable to proceed any further, and unless some fresh terms can be entered into they have fully determined to close their works. It is sad to hear that business in this great staple commodity of the country is no longer worth following, and desperate indeed must the case be when such resolutions as shutting up the works are decided upon. The first attempt to reduce the cost of manufacture is met with determined opposition on the part of those who have been asked to agree to some modification of working hours. We very much regret to see that at a large representative meeting of South Staffordshire miners, on Wednesday evening, at Cauley, the masters' proposition for an increase by an hour-and-a-half of the working time, and the abolition of the allowance for coal and beer, was denounced as cruel and tyrannical in the extreme, and it was unanimously resolved to strike rather than submit to the proposal, and it is stated that the men are fully determined not to work more hours; and it is, therefore, probable there will be a lock-out of more than 40,000 miners at the end of the month.

The declaration of feeling at this meeting is a mistaken one, for the masters have not called upon the men to submit to the reduction of wages until the state of trade has forced them to it, and the masters would be only too happy to pay the men their present wages and perquisites if the trade was in a better condition, but the prices at which sales can be made leave such a heavy loss upon the working expenses that the masters find it perfectly useless to attempt to carry on their works, and involve themselves in greater difficulties. There is no cruelty in the demand which the masters have made, and we cannot see very well how the men could with reason have come to that conclusion. If there is any cruelty shown anywhere we think it is on the side of the men, for considering that many of the works had really been carried on for a long time past to their exclusive benefit and to the positive loss of the master, and now that the masters cannot hold out any longer, and they beg the men to meet them in the matter of working time, besides foregoing some perquisites, the men turn round in a defiant, and rather spiteful, manner, and say they will strike sooner than submit to such cruel terms. There is no desire to tyrannise over the men, or to coerce them in any manner; it is simply a question for them to decide as to whether they will accept work on such a modified scale as the exigencies of the times demand, or leave it alone. However willing the masters might be disposed to keep their works open, it is clear enough they cannot go on indefinitely making losses, as it is many of them are fearfully involved, and were it not for the credits and assistance they received from the banks they would have been compelled to stop long ago. The men have looked at the masters' request altogether from a wrong point of view, and we hope they will be govered by wiser counsels and reconsider their decision; and although they may have to work a little longer for the same wages, it is decidedly better that they should do so than to abandon their employment; and as regards the perquisites of coal and beer, it has been found that the system in many instances has been so much abused that it is quite time it was put a stop to.

The men had better reflect upon the consequences before they drive the masters to close their works, for if the works are once shut the masters are not likely to re-open them until trade greatly improves, and there is some chance of making money. A half a loaf is better than no loaf at all, and, perhaps, some compromise might be effected if the men were to submit a counter proposition, but if they intend to meet the masters' proposal with a refusal we fear they will have cause to reject it hereafter. There is no choice of workmen; every trade is overdone, and low as the wages may be in the iron trade, it would probably be difficult to improve upon them in other branches of business. Another meeting of the men should be held immediately to cancel the former resolutions, and to agree to the new terms. As these are not the times to hold out there is nothing to be gained by such a combination, and much to be lost. The men can no more dictate what wages they shall receive no more than the master can dictate to the buyer the price of iron. It is simply, what will you pay? and there is such a scarcity of orders that sellers are invariably obliged to submit to buyers terms. Buyers can afford to abide their time, but if sellers are to keep their works going they must sell, and the men should do their utmost to keep the works going, but unless the masters have their hearty co-operation it is impossible, for buyers demand still lower prices, and they can only be submitted to by the men taking lower wages. The scale of wages may be very low and unsatisfactory, but how do wages compare with those on the Continent? There is not much doubt but what they they would be found to be higher in England than in Belgium, and thus it is that Belgian ironmakers can afford to sell iron cheaper than it can be produced there, and this must not be allowed if we wish to revive the trade. English iron ought to be procurable at quite as cheap a rate as Belgian, and we hope it will not be long before it is so quoted, for most of the orders for common iron could then be given out for execution in Wales and the East Coast. The market for Scotch pigs has been fairly steady, owing to shipments increasing, and m.n. are now quoted 55s. to 55s. 3d. cash. SHIPMENTS.

Week ending Aug 18, 1877	Tons	12,096
Week ending Aug. 19, 1876		9,711
Increase		2,385
Total increase for 1877		11,503
Imports of Middlesborough pig-iron into Grangemouth:—		
Week ending Aug. 18, 1877	Tons	5,158
Week ending Aug. 19, 1876		4,498
Increase		660
Total increase for 1877		45,802

Makers' iron is quiet, with little or no variation in price, and the number of furnaces in blast now is only 84, against 115 in the corresponding period of 1876.

LEAD.—The market has exhibited further weakness, and prices have fallen about 2s. 6d. per ton for English, and for Spanish about 5s. per ton.

SPELTER.—No change is reported, but prices are easy, and zinc is also rather lower.

TIN-PLATES.—Some of the makers are better off for orders, and prices are a shade firmer.

TIN.—After the recent drop in value it was only reasonable to expect that a slight reaction would ensue, or at least some effort directed to the partial recovery of previous rates, and this has been attempted, but with very feeble results. On Saturday last 64*l.* was reported to have been paid for Australian, but the buyers soon withdrew, and the market, for want of a little support, soon again receded, and sales have been since effected at 63*l.* 10s. for spot and arrival, after which 63*l.* 15s. cash was paid for small lots. The arrivals lately have been heavy, and will no doubt produce a depressing effect until the greater portion is sold, but dealers are not inclined to take over much unless reduced prices are accepted, there being nothing in the market to justify the expectation of higher prices, consequently they prefer keeping themselves free to operate at a safer period later on. The advices from Australia do not lead importers to look for any better market, otherwise they would not have sold for arrival at the lowest point of the market. The advices from America by the last two mails are very unsatisfactory, and the reports state that pig is neglected, and with the continued absence of business the market remains weak, prices being to a great extent nominal, and that they have been receding for some weeks past, and buyers continue to evince the same indifferent feeling as hitherto. Business is only of a hand-to-mouth character. Banca quoted 18 c. Straits and Australian, 15 c.

QUICKSILVER.—The demand during the past week has been restricted, and the importers have successively reduced the price to 8*l.* 10s. and 8*l.* The late violent fluctuations have had a disturbing effect upon the trade, but there are signs of an early revival of activity, the world's consumption continuing on a satisfactory scale, and being quite sufficient to absorb all that can be produced at present low range of value. The last mail advices from San Francisco confirm the reduction of the out-turn brought about by the recent low prices, the receipts during July having been but 5337 flasks, a material falling off from previous months. Stocks do not accumulate, every arrival being speedily purchased to cover the export requirements, which continue as large as ever.

THE IRON TRADE—(Griffiths's Weekly Report).—Friday Evening. The Glasgow market for Scotch pigs closes this afternoon at 55s. 1d., buyers; 55s. 3d., sellers. No excitement. The prospect of a long strike by the Black Country colliers has created a little more inquiry for Staffordshire iron, and extra buying to meet this contingency has taken place this week, with this exception, the dormant state of our market continues unabated, and the prospects of the trade for the autumn months are anything but cheering. We have no change to report in the trade for the better, but the contrary. The markets at Glasgow and Middlesborough are weaker, with a disposition to lower prices. All metals are weak. Tin, particularly, continues to descend. Australian has been done as low as 63*l.* 10s. this week. Great interest is felt here respecting the meeting of the coalmasters now being held at Dudley, the result of which will be reported by telegraph.—[We are advised by telegram, since writing above, that the masters' resolution is withdrawn, and the men's offer to take lower wages is favourably received. The drop is to be 6d. per day, thick coal, and 3d. thin; the price of coal to be reduced 2s. per ton.]

The MINING SHARE MARKET continues very dull; there is scarcely any business doing, and prices are still merely nominal.

At the Cornish Ticketing, on Thursday, the standard for copper ores declined 2*l.* 10s The quantity of ore sold was 2670 tons; average price per ton, 3*l.* 2s. 6d.; amount, 8337*l.* 6s. 6d. In tin we hear of no change.

TIN MINES continue very flat. At the East Lovell meeting a call of 5s. per share was made. The accounts for four months showed a loss on the quarter of 357*l.*, and a balance against the mine of 350*l.* The agents think that there is a fair prospect of good results in further development. At Trumpet Consols there was a loss on three months working of 368*l.*, and a debit balance of 1053*l.* South Frances, ½ to ¾. This mine is said to have improved, and with a better price for tin might do well. Carn Brea, 20 to 25; Dolcoath, 22 to 24; South Condurrow, 7 to 7½; Wheal Agar, 3 to 3½; Wheal Grenville, 30s. to 35s.; Wheal Kitty St. Agnes, 1 to 1½; Tincroft, 10 to 12. Cook's Kitchen, 1s. to 2s.; at the quarterly meeting the accounts showed a balance against the mine of 3426*l.*, and a call of 7s. 6d. per share was made. The tin sold, 62 tons, realised 2339*l.* The chairman stated if the present price of tin continued the mine would have to succumb, but he hoped things would improve. He stated that in 1866 the affairs of the mine were just as gloomy, but afterwards improved so as to enable it to pay 28,000*l.* in dividends. Captain Thomas, the agent, hoped to keep the loss down to 100*l.* per month by suspending speculative operations. New Cook's Kitchen showed a loss of 471*l.*, and a debit balance of 925*l.* A call of 4s. per share was made. West Frances showed a loss of 294*l.*, and a debit balance of 2922*l.* No call was made. The tin sold was 106 tons, which at an average price for tin would have left a profit.

In COPPER MINES South Crofty shares are quoted 8 to 9; at meeting held in Cornwall the accounts showed a loss of 954*l.* quarter, and a debit balance of 1384*l.* A call of 10s. per share made. The copper ores sold realised 1240*l.*; tin, 1223*l.*; 200*l.* Devon Great Consols, 3¾ to 4¼; the sale of ore on Thur realised 2267*l.* 12s. 6d. South Caradon, 100 to 110; the sale brought 2375*l.* 12s. Parys Mountain, 8s. to 10s.; another has been met with in the 90 cross-cut south, containing copper of good quality. The trial in the 30 is also daily improving. ford United, ⅛ to ⅜. East Caradon, ½ to ½; the sale of ore on Th day realised 219*l.* Gawton, ⅛ to ⅜; Hingston Down, 2s. 6d. to 7s Marke Valley, ⅞ to 1⅛; the sale of ore on Thursday realised 1 to 1⅜. West Tolgus shares have advanced to 72½, 75; at the me on Thursday a dividend of 1*l.* 10s. per share was declared. The p on two months was 844*l.* Ores sold, 4047*l.*; costs charged to Ju 3203*l.* The agent's report was very encouraging.

LEAD MINES are also rather weaker. Great Laxey, 20 to North Laxey, 14s. to 16s.; nothing new here. Glenroy, 1 to the shaft is progressing. Van, 31 to 33; the sale of lead ore fo month, 500 tons, realised 6267*l.* 10s.; blende, 150 tons, 446 East Van, 4¾ to 5¼; the 40 cross-cut has reached the flookan, o part of the lode, and greater progress will now be made to inte the main lode. The 25 west has much improved, and shows a of lead. Roman Gravels, 9½ to 9¾; the sale of ore for the m 175 tons, realised 2130*l.* 12s. 6d. Tankerville, 6½ to 7; on Thur night the whim-rope broke, and the kibble, with about 16 cwt ore, fell to the bottom of the mine, and caused considerable da to the shaft. Owing to this, the agent states, the sampling fo month is only 100 tons. West Tankerville, ½ to 1⅛; the samp here is 35 tons of lead. Aberdaunant, ⅜ to ⅝; Assheton, 1 to East Craven Moor, 10 to 11; Glyn, 12s. to 14s; Herodsfoot, 4½ Ladywell, 1 to 1½.

Leadhills, 5½ to 6; Pateley Bridge, 2 to 2½; Bodidris, 1 to 1½; rwst, 2 to 2½; Rookhope Lead, ¾ to 1; Van Consols, ½ to ¾; Assheton, ¾ to 1; West Chiverton, 12 to 14; West Craven Moor 10 to 12; West Pateley Bridge, 1 to 2. Gorsedd and Merllyn, 5¾ to 50 tons of ore have again been sold, realising 676*l.* 5s. Pen 5 to 5½. Clementina, 30 to 40; for some weeks past the chief rations here have been in making a reservoir, which is nearly plete, and it is hoped no further hindrance will take place in sin the shaft to the 35, after which good returns of lead are expe An extra water-wheel is also in course of erection. D'Eresby M tain, 20 to 25; a large quantity of ore ground is being opened ready for a wheel and crusher when erected. Grogwinion, 2 3½; Llanidloes, 2 to 3; Melyndur, ¼ to ¾; Red Rock, 2 to 2½; S Cwmystwith, 3 to 4; Saint Harmon, 2½ to 3; Wye Valley, 3 West Wye Valley, 3 to 4; West Goginan, ¾ to 1¼. South Ro ½ to ¾; the prospects continue good.

Among FOREIGN MINES Argentine are quoted 2¾ to 3¼; Tent, 3 to 3¼; Condes, 2¾ to 3¼; Hultafall, 5¾ to 6¼; Almad to 6s.; Chontales, ¼ to ½; Eberhardt and Aurora, 5¼ to 5½; chequer, 4s. to 5s.; Flagstaff, 2⅝ to 2⅞; Frontino and Bolivia 2¼; Javali, 7s. to 9s.; New Zealand Kapanga, 1 to 1¼; Last Ch ¾ to 1; New Quebrada, 1¾ to 2; Pestarena, ⅛ to ¼; Port Phill to ⅝. Richmonds have declined to 4, 4½. St. John del Rey, 2 310; South Aurora, ⅛ to ¼.

The Market for Mine Shares on the Stock Exchange has sh slightly more animation during the week, although there is plenty of room for improvement, and prices remain nominal, one or two exceptions. St. John del Rey show a further advan doubt owing to the gradually improving ley of the ore, as s by the telegrams received. Richmond have been very flat, a Thursday fell nearly 1½, chiefly upon the telegram that an ad decision had been given in the lawsuit. It is understood that tain points of law have been reserved for the Supreme Court. shares also declined 2*l.*, although there does not appear to be an terial change at the mines. The large profits derivable from m carried on with energy and perseverance have been very full ferred to by a German scientist, who appears to have very cure studied the subject. He states that Senator Jones, of Nevada, three years ago receiving an annual income of 1,000,000*l.* fro silver mines in that State, an amount which represents 5 per interest on a capital of 20,000,000*l.*; whilst Mr. J. W. Mackey, a penniless boy in Ireland, receives from his Nevada silver mi annual income of no less than 2,750,000*l.*, or an amount eq 5 per cent. interest on 55,000,000*l.* sterling.

The richest mining firm in the world is supposed to be P O'Brien, Mackey, and Fair, whose interest in two bonanza is estimated at the present depressed prices at nearly 5,000 in addition to which they own the Bank of Nevada—quite a n bank—with 2,000,000*l.* paid-up capital, and 500,000*l.* reserve are estimated to hold 5,000,000*l.* of United States Bonds. these investments they own a controlling interest in several mines, some of which, like the Best and Belcher, are believed on the line or rich deposits, and may at some future day be c in the list of "bonanza mines." Add these items together the total 12,000,000*l.* is an underestimate of their wealth. ferring to the same subject, however, a Californian authori marks that the number of men who are millionaires in that was never so great as now. None of them were rich 20 years and very few had fortunes even ten years ago. Quite a num those who had large fortunes five or six years ago do not now in the list of millionaires. The ups and downs of mining int have made the principal difference. A considerable number who were not rich five years ago have large fortunes to-day. is a land of "ups and downs" there never was a country men got up so soon as in this. There is spring, untiring ener men who have faith in themselves, in the country, and in the Providence which is on the side of all who honestly try to help selves. These fact illustrate in a striking way the wonderf sources of mining, but to secure success those embarking in it be practically acquainted with the business, and must be c that no other payment be made than that for royalty in loca where royalties are the custom. In cases where the freehold minerals is obtained the purchase price, in the opinion of one has had great experienc in the transfer and working of should never exceed twice the value of the surrounding surface that for the probable extent of the discovered lodes only. Th estate of 2000 acres, if a mile long, and traversed by a 20 fm. of lode-carrying ground would be worth the surface value the value of 384 acres added, or, in other words, the estate w be worth the price of 2384 acres at average surface value per The reason that this applies generally is because the surface varies with facilities for getting at it, and so on, and the favourably a property is situated the greater will be the c labour, &c., for getting the ore. It has been found that this sy of valuation has proved permanently advantageous to both b and sellers.

A striking instance of the obstacles to the successful manage of even a sound commercial concern, which shareholders them too often create, was afforded at the meeting of the Englis Australian Copper Company on Thursday. Owing to a pro given by the directors a half-yearly meeting, not required b deed, is held, and an estimated statement of account presented, submitted on Thursday extending to the end of December During the six months reported upon the loss, resulting from verse changes in the markets, was about 4 per cent. upon the c pany's capital, which represents about the same loss on the co and ore purchased, the price paid for which was about 170,000*l.* to have succeeded in turning over and manufacturing 170,000*l.* of copper and ore with a loss of only 7000*l.* certainly entitles the rectors to congratulation, considering how many previously s firms have succumbed altogether in passing through the ord the commercial depression of 1876, and those congratulations a more justifiable when it it is considered that by the altered p given for the raw material during the succeeding six mon entire 7000*l.* may be recouped—that is to say, had the meeting held in accordance with the company's deed probably no loss

own. The general profit and loss account to the date mentioned has a debit balance of 6620*l.* (which, but for the payment of the January dividend of 3500*l.* though the 9*l.* unexpected drop in the price of copper since had reduced the net proceeds of the six months sale of copper to 126,500*l.*, would have been 3120*l.* only), to meet which there are plant and assets estimated by a shareholder at the mines at 70,000*l.* (but which are really worth more nearly 150,000*l.*), stores at 20,000*l.* (but which are really worth more nearly 150,000*l.*), reserve fund in this country of 11,000*l.*, and 4000*l.* reserve in Australia. As the company have only 85,000*l.*, taking the lowest estimate, for 6620*l.* of debts, several shareholders suggested the company should at once go into liquidation to prevent further disaster. That such a suggestion was made in good faith can scarcely be supposed, but to concerns less strong than the English and Australian Copper Company's so absurd a motion might seriously have affected the company's business. It was mentioned by the directors that although they had had periods of adversity their average profits for the last years had been 6 per cent per annum, and this the opposing shareholders acknowledged, but made the curious assertion that this was only through advantage having been taken of favourable markets. Assume that men of business can be so lamentably ignorant of these matters as to expect the profits of a commercial concern to be affected by favourable or adverse markets would be so degrading to the speakers that it is more complimentary to them to assume that they were not acting in good faith. Another curious suggestion was that it was unreasonable for smelters to work except at profit, as with judicious management the entire loss could be thrown on the miners, but the Chairman explained that this was impossible because they had to consider how they could ensure a regular supply of furnace material in good as well as bad seasons; in fact the directors appear to understand that which is obvious to all but the opposing shareholders aforesaid that the loss of 3000*l.* in profit for 126,000*l.* of copper in time of almost unparalleled depression is preferable to leaving 70,000*l.* worth of plant idle for an indefinite period, and sacrificing a business which on the experience of 20 years yields an average return of 6 per cent. per annum.

From St. John del Rey, 290 to 310; the latest telegram received, dated August 20, states the produce for the first division of August, in 25 days, was 12,250 oits., of the value of 4746*l.*, the ley of the ore was 90 oits. per ton. The general work in the mine and on surface is going on well. Don Pedro, $\frac{3}{8}$ to $\frac{5}{8}$; the latest advices from the mines state that with regard to the prospective and running levels the driving from the new level is communicated to Vivian's level, and the force from the same put to re-open the level to its original size required. Repairing of Vivian's shaft has been kept on, and all work in connection with permanent pumping machinery is being pushed forward with all speed. The clean up for the first fortnight of August was 1600 oits. Frontino and Bolivia, $2\frac{1}{2}$ to 3; important advices are expected by the next mail, in addition to a remittance of gold. Argentine, $2\frac{3}{4}$ to $3\frac{1}{4}$; at the meeting, on Monday, it was determined to raise the additional capital required by issues of debentures, and another meeting is to be called to authorise the increase. Dr. Oxland's statement was favourably received. Condes, $2\frac{3}{4}$ to $3\frac{1}{4}$; Advices are due by the Pacific mail next week.

Richmond, $3\frac{3}{8}$ to $4\frac{1}{8}$; the heavy decline is attributed to the telegram that the decision of the Court is adverse to the company, although Messrs. Wilson and Wren believe there are sufficient errors to reverse in Supreme Court. The Rev. Mr. Probert considers that the decision is against law and facts, and announces that the Richmond Company hold possession during prosecution and appeal. The lode above the fourth level is rich, and the quality increasing. The manager reports that the rise in the back of the 400 is now up 25 ft. from the Eureka seventh level; the top of the mine is now in sandstone. The 400 drift is being driven on the quartzite in a westerly direction; the end at present is poor, but it is looking very promising for ore. All other parts of the mine are without change since his last.

Eberhardt and Aurora, $5\frac{1}{2}$ to 6; a long special report has been received from Capt. Drake, the manager. He states that their driving for ore at all their prospecting points are being vigorously pushed forward. The board's earnest suggestions that every streak be tried in the old workings and every available pound be broken is receiving his decided attention. The ore rock broken and hoisted since winter and spring is now mostly assorted, and as shown by his last weekly returns they have 320 tons of ore on the mine dump, and have four men still prospecting and breaking whatever of ore can be found. But he cannot say there is any thing of much promise at any point of their upper workings. Some custom ore is now being delivered at the mill from the Stafford Mines. The arrangement is that last 500 tons shall be furnished, which he has agreed to work for £13 coin per ton, and the owners take the bullion clean up, no percentage whatever being retained. The company's own ore now on the mine dump, and being assorted at the Aurora Mine, will also be hauled and milled during the run. He does not think the amount of ore will exceed 500 tons. He will start the mill as soon as the quality of the ore delivered will warrant. The mill will be started up in very much better condition it was in when they closed down last January. The position of the company's funds, taken with their past monthly expenditures and progress, is in a very serious matter, and one that he very keenly feels, so much so that he only realises that the discovery of new bodies of ore is of the utmost vital importance, and the resources of the company to the best of his ability are directed accordingly. He makes all their operations subordinate to the finding of pay ore.

Exchequer, $\frac{1}{2}$ to $\frac{5}{8}$; negociations are understood to be pending to raise the entire capital necessary to place the company in a sound financial condition, and develope the mine to a depth of 1000 ft., the existing machin-ry already erected being of sufficient power to sink the shaft to a depth of 1500 ft. I.X L., $\frac{1}{8}$ to $\frac{3}{8}$; the report of last week states that the vein in the north drift was looking better than it had done for some time, the formation of the ledge being more regular and solid, with a strong flow of water from the face; of the ore in the face, the foreman writes, is of the some character that found in the old upper tunnel before the rich ore-body was reached. The sinking of the engine-shaft was progressing well, though water had considerably increased. The water was tapped in the south-west of the shaft, where some small streaks of ore had been found. Everything in and about the mine was running and working well.

In Hydraulic or Goldwashing shares the market has been quite normal; this section, like all others, continues to be adversely affected by the general inactivity always apparent at this holiday season. Blue Tent, 3 to $3\frac{1}{4}$; the manager writes that they set off a small blast in blue lead, mentioned last week, with good results; this improves the chances for another blast now in course of construction very much. The drifts of the latter are progressing favourably, and will soon have them ready so as to construct the powder magazine. In South Yuba Mine they wash very steadily during the whole week, and if the water will not fail sooner than they expect they have strong hopes of making quite a good clean-up next time. Eldorado, $5\frac{3}{4}$ to $6\frac{1}{4}$; the reports of Capts. Arthur Waters, Richard Pathey, and Mr. T. Currie Gregory appear in another column. The concurrent testimony of these gentlemen, who are considered high authorities in their profession, is that the Hultafall property bids fair to equal that belonging to the Vieille Montagne Company of Belgium if only proper justice be done to it in laying open the mine. Machinery of the best, most perfect, and complete kind has been ordered, and Mr. Green, the patentee of the machinery that has been put up at the works of the London Lead Company, Messrs. Beaumont's mines, and others, is now in Sweden laying out the winning-doors. The directors are men of good standing—Messrs. Garfield, Bradwell, G. Batters, and Major Huddleston. Mr. Lavington is the secretary.

It is understood that the applications for shares in the Great Vanny Lead Company, to the formation of which reference has been made, are coming in very satisfactoriiy. Full details concerning the undertaking are given in the prospectus, which will be found in another column. The property is extensive, held on favourable terms, and well situated for working. Operations have been lately carried on by a local company, who sank new pits, erected powerful machinery, and extended the adit level north some 40 yards along a north and south vein, with the object of intersecting a new east and west vein, which was supposed by all the miners in the neighbourhood to exist in that direction. A large quantity of ore was raised from this driving, but after sinking a shaft to a depth of 120 yards, and erecting machinery thereon of the best class for pumping, winding, and crushing purposes, the fact that insufficient capital had been provided became apparent, and there was no alternative but to close the mines. All the work done will be useful to the new company.

In Lead Mines shares generally there has been very little doing, and the few transactions that have taken place have been at a decline. Van are quoted 30 to 32, and the tendency is decidedly downward. The month's sale of lead (500 tons) realised 6267*l.* 10s., and the blende (150 tons) 446*l.* 5s. East Van. $4\frac{3}{4}$ to 5; the ground is now easier in the 40 cross-cut, and greater progress will be made. Grogwinion, $2\frac{1}{2}$ to $3\frac{1}{2}$; the usual monthly parcel of 100 tons of lead has been sampled for sale on Wednesday next. The mine is looking well at all points, and especially in the deepest levels. Wye Valley, 3 to 4; Tippett's shaft is making good progress. The stope in the east end of the adit looks well. West Wye Valley, 3 to 4; the bottom of the mine continues to open out well, and the reserves of ore ground are steadily increasing. Saint Harmon, $2\frac{1}{2}$ to 3; the prospects of early discoveries continue good, the indications at the cross-cut being most promising for cutting a south lode. The other points in the mine show a steady and continuous improvement. South Cwmystwith' 3 to 4; all hands are reported busy in erecting machinery, which, but for the wet weather, would now be finished. The mine is looking well. West Goginan, $\frac{3}{4}$ to $1\frac{1}{4}$; the whole of the new capital has, it is said, been subscribed, and the sinking of the shaft is being rapidly pushed on. Of late the prospects of the mine are considered to have materially improved, and there is every indication that when the shaft is sunk to the required depth rich deposits will be laid open. The mine is provided with a new and powerful plant of machinery capable of returning large monthly parcels of lead.

Red Rock, 2 to $2\frac{1}{2}$; the 10 is opening out well, and the prospects in the bottom level also were never better. It is stated that ore sales will shortly commence. Llanidloes, 2 to 3; the shaft is going down in a very favourable lode. There has been a continuous improvement from the 60 down to the 84, and the bottom of the shaft contains a good rib of ore. The level which has been driven below the 60 (the point at which it was thought the mine would have to be abandoned) has opened up an improved run of ore ground, and of much greater length than anything seen above, and the indications now existing at the 84 are now sufficiently encouraging to warrant the belief that an equally good level will be here opened out. The shaft will be at once pushed down, and when it reaches 96 fms. deep another level will be driven. The board and manager are to be congratulated upon this spirited development of the mine in depth, it is the only proper way to thoroughly prove properties in this formation. Melindur, $\frac{1}{4}$ to $\frac{3}{4}$; the unissued shares are, it is said, being fairly well applied for.

Subjoined are the closing quotations:—

Assheton, 1½ to 2; Carn Brea, 22½ to 25; Devon Great Consols, 3¾ to 4¼; Dolcoath, 21to 23; East Caradon, ¼ to ½; East Van, 4½ to 5; Glyn, ½ to ¾; Great Laxey, 20 to 22; Hingston Down Consols, ¼ to ½; Leadhills, 5½ to 6; Marke Valley, ⅞ to 1⅛; Parys Mountain, ⅜ to ⅝; Pateley Bridge, 2 to 2½; Pennerley, 1-16ths to 3-16ths; Penstruthal, ¼ to ⅜; Roman Gravels, 9½ to 10; Tankerville, 6½ to 7; Tincroft, 10 to 12; Van, 31 to 33; Van Consols, ½ to ¾; West Assheton, ½ to 1; West Chiverton, 12 to 13; West Tankerville, ¾ to 1; Wheal Crebor, 1 to 2; Wheal Grenville, 1½ to 1¾; Almada and Tirito, ⅛ to ⅜; Argentine, 2¾ to 3¼; Birdseye Creek, ⅜ to ⅝; Blue Tent, 3 to 3¼; Cape Copper, 37 to 39; Cedar Creek, ⅜ to ⅝; Chontales, ¼ to ⅜; Colorado Terrible, 1½ to 2; Condes of Chili, 2¾ to 3¼; Don Pedro, ⅜ to ⅝; Eberhardt and Aurora, 5½ to 6; Emma, 1-16ths to 3 16ths; Exchequer, 3 16ths to 5-16ths; I. X. L., 3-16ths to 5-16ths; Flagstaff, 2¾ to 3¼; Frontino and Bolivia, 2⅝ to 2⅞; Hultafall, 5¾ to 6¼; Javali, 6s. to 8s.; Kapanga, ¾ to 1¼; Last Chance, ¾ to 1; New Pacific, ⅛ to ⅜; Plumas Eureka, 2½ to 3; Port Phillip, ⅜ to ½; Richmond Consolidated, 3¾ to 4¼; St. John del Rey, 290 to 310; San Pedro, ⅜ to ⅝; Sierra Buttes, 1¼ to 1¾; South Aurora, ⅛ to ⅜; Tecoma, ¼ to ¾; United Mexican, 1½ to 2.

COLLIERIES.—There can be little doubt that business is gradually increasing, not on the market for this class of shares, but at all the great centres of the coal and iron industries, and it is upon these last that legitimate business on the former must be based. At Barrow, Newcastle, Birmingham, Cleveland, and in South Wales, a better condition of trade is noticeable; the exports continue to increase, and anything like a prospect of an early peace would bring about a degree of confidence which would prove beneficial in all our commercial communities. On the market for colliery shares hardly a transaction or change in prices is to be recorded. If we may, however, judge by the enquiries which appear to be of a "buying" character, there are not wanting some who appreciate that matters are at about their worst, and that with care good investments may now be made. The report to be presented to the shareholders of the Consett Iron Ore Company, at their meeting on Sept. 1, has been issued. The profits for the twelve months embraced in the accounts amount to 83,288*l.*, and this sum the directors recommended should be appropriated as follows:—For special expenditure on blast-furnaces, reconstruction, and new brickworks, 14,094*l.* 5s. 6d., and for payment of the final dividend for the year of 15s. per share, amounting to 41,400*l.*, after which, and the interim dividend of 7s. 6d. paid in February, there will remain an undivided profit of 7094*l.*, making a total undivided profit of 32,642*l.* Chapel House shares close as last week, at $2\frac{1}{2}$ to 3. The manager writes that the sales of coal for the month will prove the largest since the company was formed, and the profits will show a satisfactory increase upon what has been realised for some time past. The new works are progressing rapidly, and the new 16 ft. is now reported as being down 263 yards. Alltami shares close at 4 to 4¼; Llay Halls, 9 to 9½; Cakemore, 2 to 2½; New Sharlston, 3 to 3½; Thorp's Gawber, 2 to 2½. West Mostyn debentures are being fairly well taken up, and hopes are still entertained that all will be subscaibed for sufficiently quickly for the purposes of the company. Cardiff and Swansea shares close at 1¼ to 1½. Nant-y-Glo and Blaina, 18 to 20; Pelsall Coal and Iron, 12 to 10 dis.; Richards and Co., 6 to 7; and Newport Abercarn, 2⅛ to 2¾.

At the Truro Ticketing, on Thursday, 2670 tons of copper ore were sold, realising 8337*l.* 6s. 6d. The particulars of the sale were—Average standard, 96*l.* 16s.; average produce, 6; average price per ton, 3*l.* 2s. 6d.; quantity of fine copper, 161 tons 19 cwts. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
July 19.	3447	£ 99 7 0	6¾	£3 19 6	11s. 11d.	£59 10 6
Aug. 2.	1268	90 14 0	8	4 9 6	11 2½	56 2 0
,, 23.	2670	94 16 0	6	3 2 6	10 5	52 0 6

Compared with the last sale, the decline has been in the standard 2*l.* 10s., and in the price per ton of ore about 3s.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains:—Original Correspondence; Ore Stamping Machinery; Rock-Boring Machinery—No. IV. (J. Darlington); Hultafall Lead and Blende Mines; Gellivara Iron Mountain—New Gellivara Company; National Association of Colliery Managers; Traction Engines—the Mining Interests—Perseverance (R. Tredinnick); Mining in Cornwall—Bedford United (J. Wedgewood); Wheal Grenville; North Laxey Mining Company); J. H. Murchison); Lead Mining in Wales; Lead Mining in Wales—Esgair-Hir Mine; Lead Mining in Wales— Management (A. Francis); Pant-y-Mwyn Mine, North Wales; Parys Mountain and Morfa Du Mine; Great West Van Mining Company; the Flagstaff Silver Mining Company of Utah (A. A. de Metz); the Colorado Beetle (William White); Registration of New Companies—Hultafall Lead and Blende Mines (*illustrated*)—Foreign Mining and Metallurgy—Patent Matters—Meetings of Richmond Consolidated, Argentine, Pestarena, and English and Australian Companies, &c.

DERWENT.—This valuable lead mine continues to open in the most satisfactory manner. The average value of the lode at the different points has increased in the last six months nearly 100 per cent. In a short time, when several operations now in progress are accomplished, and when stoping is commenced on the Sun vein, the returns will be largely increased, and good profits realised.

ROOKHOPE.—It is stated that there are reserves of ore ground already opened here to last for 20 years. The returns could be made at once to exceed 100 tons per month if the dressing machinery were extended and completed. Attention is being given to this.

TYN-Y-FRON (Lead).—At a general meeting of shareholders, held at Gresham House, on Aug. 18 (Mr. T. P. Thomas in the chair), the secretary having read the notice convening the meeting, and the reports on the mine of Capts. Absalom Francis and Evan Jones, it was resolved that Messrs. C. Morris, W. E. Lockhart, and Dr. Evan Rowland be the directors of the company; that Mr. H. Francis be the secretary, at a salary of 50 guineas per annum; and that Mr. G. A. Symonds be the auditor of the company.

HOLMBUSH.—The directors' report and accounts for July show a balance of 1068*l.* 2s. 5d. in favour of the mine, out of which a seventh dividend, at the rate of 30 per cent. per annum, is declared on the paid-up capital of 23,702*l.* 7s. 6d. The return of ore sold and stocked during the month gives a total produce of 1363*l.* 12s. 6d., but which would have been much more had not a number of the workmen been taken from underground to open up the ground, where there is a magnificent new discovery of very rich copper and silver ores.

PETROLEUM FOR STREET LAMPS.—It has been decided by the Romford Local Board of Health to decline the renewal of their contract with the Romford Gas Company for lighting the public lamps, and preparations are being made for lighting the town with petroleum. It is anticipated that the new oil lamps will be ready for use in the second week of September, and that a saving of 100*l.* per annum will be effected by the change from gas to petroleum.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

"J. R." will thank any reader to say where and at what price Hancock's Patent Butter Machine (as exhibited at the Royal Agricultural Show, Liverpool) may be obtained.

HORNACHOS MINING COMPANY—"C. C. M." (Mincing-lane).—These shares have not changed hands except at a premium for some time past. It was by a printer's error that the Hultafall quotation was placed against Hornachos in last week's Journal.

WHITE LEAD PROCESS.—Would any of your readers inform me, through the medium of the Journal, of the date of Sankey's patented white lead process, whether extensively used, and with what success.—SUBSCRIBER.

Received.—"Empressario" (Maidanpek, Aug. 6)—F. M. F. Cazin (New Mexico)—"S. H." (New York)—"W. T." (Coosheen)—"W. L." (Wheal Grenville)—"J. M. N. M."—"J. R."—"Shareholder" (Van Consols)—"Yuba"—"J. B." (Liverpool) — "Shareholder" (Exchequer) — "Constant Reader" (Bristol)—"B. L."—"Shareholder" (Dublin) — "Nil Desperandum" — "Subscriber" (Winchester)—"R. W. B."—"F. G. S." (Plymouth): We shall be glad to receive the particulars—"P. N.": The result must be very satisfactory.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, AUGUST 25, 1877.

ECONOMY IN THE WORKING OF COAL.

In the present state of the coal trade, when competition is so very keen and profits at zero, it is necessary that our collieries should be worked with the greatest economy consistent with efficiency and safety. An important step in this direction will be the introduction of a system of cutting by which less slack is made by the miner and a larger quantity of marketable coal produced. During the last four or five years our mineral statistics show a very large increase in the output of coal throughout the kingdom, but if this increase were to be traced we believe it would be found to consist principally of slack, or what not so very long since was termed "waste." Before the rush which commenced in 1872 immense quantities of slack were left in the pits, whilst thousands of tons were to be seen on the pit banks, and for the purpose of removal we have known a keel-load to be sold for 5s. Since then, however, it is all brought out of the collieries, and is sold, but the feeling is that in the ordinary operations by the miners so much should not be made, for the smaller the percentage and the more large coal the better for both colliery owner and collier, there being a very great difference in the commercial value of the one over the other. Very few persons outside the trade are probably aware of the great loss occasioned in holing or cutting, or bringing down the coal by the means now adopted. In some instances this has been known in thin seams to be from 40 to 50 per cent., and in the report of the Royal Commission it is stated that the quantity of coal produced for consumption out of a given area is less by from 10 to 40 per cent. than the coal measure in the strata, involving a loss of coal to that extent. The loss is, however, stated to be capable of being removed in varying degrees, so that a much greater quantity of large or marketable coal could be produced by the adoption of more scientific modes of working.

But in working by hand as yet there has been no saving, and we should certainly think that the difficulties attending the adoption of some system for lessening the production of slack in "holing" are such as might be overcome, the same as has been accomplished wherever coal-cutting machinery has been adopted. Indeed, were the quantity now made by the first process reduced one-half it would be a very great advantage to all concerned. But in connection with the cutting there is another process carried on in several districts that tends to make large coal into small, and that to a considerable extent unless done by thoroughly competent persons. At many collieries giving off a good deal of gas wedges are used in bringing the coal down after it is cut, whilst in others gunpowder is adopted. With regard to the latter, it has been truly said that blasting ought to be conducted on scientific principles, and that the quantity of powder required should be regulated by a knowledge of the strength of the coal and the line of resistance; but these are things unknown to our colliers. They have no idea of minimising powder, for, as a rule, we should say they use a great deal more than is necessary, so that there is a loss both ways—in the consumption of powder and by the increased quantity of small coal made. What a great saving, then, could be effected by the judicious use of powder in collieries, although it is a matter one never hears about, for the men just use as much as they think is required. This is a matter of great importance, and the late Mr. MARK FRYAR, in one of his lectures on the education of miners, said—"I doubt not but what in places where the coal is blasted the young hewer loses more by his disregard through ignorance of the line of least resistance than would have paid for six months' education, or furnished him with a valuable addition to his library." Now, there does not appear to be any substantial reason why there should be a quantity of useless powder expended in deteriorating the quality of the coal, whilst a little instruction on the part of the manager would soon be recognised by the men, who are not slow in imbibing anything that can be shown to be for their own benefit. There are, however, many ways in which the knowledge we have alluded to, the want of which is so prejudicial to masters and men, might be given in clear and unmistakeable terms, and it is to be hoped that those who take an interest in the practical progress of the miner will help him forward in this important part of his duties.

But the great loss in coal mining as relates to the production of slack is in the holing or undercutting, which in some districts is more serious than in others, and one question with respect to it naturally arises is whether the different modes of working such as carried out could not be so altered as to cause less to be made. The subject no doubt has occupied the attention of our mining engineers, but we are not aware that they have ever agreed to any change or modification in the systems now being carried out. In South Yorkshire where the principal seam is from 8 to 9 feet in thickness the coal is got by longwall, but makes from 10 per cent. upwards of slack, whilst the Silkstone being much softer makes a good deal more. In the Leeds and Bradford districts the seams of coal worked are much thinner than in any other part of the kingdom, some of them not being more than 18 inches, so that the loss with respect to them must be very serious, seeing that so high a price has to be paid to the miner, the reason for working them being entirely owing to their being well adapted for iron smelting. What is known as the Middleton coal has been usually worked by banks and bords, giving about 1100 tons per foot per acre, of which close upon 50 per cent. is slack. The Lowmoor beds are very thin, some as low as 12 inches, the ironstone being found above one, whilst another is almost entirely free from sulphur, and consequently well suited for smelting. All these seams make one-half slack. It will be admitted on all sides that with such very serious losses in the working of both thin and thick seams of coal in the ordinary operations by hand there is a large and important field open to those who can improve on the present wasteful systems without having recourse to costly machinery. It should, however, be stated that so far as the information on the subject of coal-cutting machinery has been made known that by it a very great saving is effected by the comparatively small quantity of slack that is made. In an ordinary seam FIRTH'S machine made only 4 per cent. of slack, against 12 per cent. by hand. According to Mr. LINDSAY WOOD, who has tested several of BAIRD'S machines, the latter made a hole only 3 inches in depth, whilst the holes made by the miners by hand were 10 inches, so that from a 3 feet seam 10 inches of coal was converted into slack. The late Mr. FORSTER also gave it as his opinion that the coal-cutting machines would enable the coal to be brought out in a more marketable state, the principal difficulty to be surmounted being the conveying the compressed air to the machines. In several districts the machines are now at work, and are making good progress, and there is no doubt but what the present expensive system of hand work will be greatly modified, and in not a few instances entirely superseded, for a system which gives from 10 to 50 per cent. of slack is one in the present state of trade that ought not to be continued longer than was absolutely necessary to effect a change for the better.

LIMITATION OF THE OUTPUT OF COAL.

Acting upon the advice of Mr. MACDONALD at a meeting of delegates recently held in Glasgow, it was agreed to recommend all the miners of Scotland to restrict their labours, and in some places it is said that the men have agreed to stand on the Thursday. If such a step is really taken in earnest in our opinion it will be found far more injurious to the workman than the master, not only in the present, but in the future as well. The public at large are not likely to pay a heavy tax for coal so that the wages of miners shall be advanced beyond what they ought to be. We all know that cheap coal increases the consumption and causes it to find its way into many markets that, were it dear, it would be entirely shut out of. To endeavour, then, to destroy the trade is a truly suicidal policy, for it simply means an attempt to lessen the capital of the country from which wages absorbs the greatest part. The miners will, therefore, do well to pause before they act upon the advice of those whose counsel may bring them into collision with their employers, and inevitably lead to a voluntary reduction of wages that cannot in any way help them to an increase in the future. They may rest satisfied that capital and labour will always be most benefited when they go hand in hand together, and that both will be losers so long as they are opposed to each other. If in England the men determined to limit the production of coal, the strong probability is that in many districts a large number of collieries would be entirely closed until the men were taught that colliery proprietors were not entirely at their mercy and could not do just as they pleased. At one of the largest collieries in South Yorkshire this is the case at the present time with respect to wages. The men would not accept the terms offered, so the whole of them (some 600 or 700) had notice to leave, and are now living on 8s. per week received from the Miners' Association. But to suppose for a moment that the limiting of production of coal for a time would be followed by an increase of wages is a delusion so transparent that we are surprised that any of the miners cannot see through it. Were it adopted the result would be, instead of that anticipated by MACDONALD and Co., to cause some districts and collieries to be well employed whilst others stood still. Coal would still be plentiful, for at the present time the average days worked in most localities will be found to be about four a week. We should, however, lose a good deal of our export trade, which in all probability would be irrecoverable, so that when the men felt inclined to work as usual they would find that such by their own folly was impossible, and what they had themselves initiated as an experiment to raise wages would have to be continued; not only that, but they would make the disagreeable discovery that wages would have to be reduced. Something like this is going on at the present time, for competition both at home and abroad is particularly keen, and it is only by selling cheap that business can be obtained.

In connection with the limitation of the production of coal there is another point that should not be overlooked by the men—that is the power of capitalists to combine to oppose the unjust demands of their workpeople. In 1875 we recollect that a meeting of delegates was held in Leeds, for the purpose of forming a confederation of miners' associations, with the object of limiting the production of coal, so as to keep up wages. On that occasion the attempt failed, as it will do now, for the men are not in a situation to make a lengthened stand, whilst their associations have not the funds in hand to help them. The attempt to bolster up wages by such means, to say the least, is childish in the extreme, and he must be a simpleton of more than ordinary verdancy if he for a moment thinks there is the slightest chance of its succeeding. Were the employers of miners to believe that by setting down their pits for a time they could create an advance in the price of coal in the home and foreign markets, and actually do so, what would be the consequence to the men and their families? The answer is that they would soon be in a state of semi-starvation, and obliged to seek for support to the poor-law authorities, whilst the employers, falling back upon their realised capital or savings, would not be much inconvenienced. It may also be said that the masters now act together more than they formerly did, so that any attempt at dictation on the part of their workpeople as to the quantity of coal that should be raised would be determinedly resisted. The men had, therefore, better get as much money as they can now, and do all they can to place in the hands of their employers everything that can readily tend to keep up or advance the price of coal, which can only be done in a legitimate manner, depending entirely on the law of supply and demand. To stop production in one district throws the trade into another, to the loss of the former, whilst to diminish our exports is simply losing a most important part of the trade, which in all probability would never be recovered.

THE COAL FIELDS OF SOUTH AFRICA.

The latest advices from the Cape state that very encouraging accounts continue to be received of the coal deposits in the Stormberg and the mountains beyond. It is said that they extend from the Queenstown district through Basutoland, the Orange Free State, and into the Transval, a distance of 450 miles by 120 in breadth, covering altogether an area of 50,000 miles. The seams are reported as thick and the quality good. Iron ore also abounds in many localities covered by the gold fields. Our esteemed correspondent, Mr. F. W. NORTH, M.E., whose selection by the Government for exploring in South Africa has already been referred to in the *Mining Journal*, appears to be making satisfactory progress, one of his sections subjoined showing that the mineral really exists in workable quantity. With regard to the Dordrecht coal fields, it is remarked that just now when the immense coal deposits of the province are being developed and brought to light, attracting so much attention in all parts of the colony—to say nothing of the great benefits the recent important discoveries near the Indwe have already conferred on the residents of Dordrecht by enabling them to procure splendid fuel at a moderate price—any news upon the subject, however meagre and imperfect, will be perused with interest.

From Dordrecht the coal camp (Dunn and North's camp as it is now familiarly called) by Klipdrift, is reached in about four hours with a cart and pair. With the exception of one short hill the road is in pretty fair order. This portion of the road, however, and the removal of sundry antheaps in the scarcely-formed track through the veldt a few miles further on, ought to—and no doubt will—engage the immediate attention of the Divisional Council, so that Dordrecht and the district may reap every advantage from the important discovery. Mr. DUNN, Mr. NORTH, and Mr. NORTON are the heads of the Coal Camp, and they appear very hearty in the business. The mine is in the side of a long randt, and an excavation or tunnel of some 14 ft. in height, 10 ft. wide, and 30 ft. deep has already been made, and several wagonloads of good burning coal have been taken out. The work is being performed by half a dozen English navvies, assisted by a few Kafirs, and the amount of labour performed in so short a time is truly astonishing. Coal in large quantities—some of the pieces weighing as much as 200 lbs. and 300 lbs.—was being blasted, and crowbarred, and wedged out, and carried to the level above ready to be forwarded away as soon as transport was procured. All doubts as to the burning qualities of the coal have been entirely set at rest, and if there are any sapient individuals who may be inclined to doubt this assertion, they had better pay a visit to the Coal Camp and see for themselves. The sight of an immense coal-fire in the open air, at which a sturdy specimen of John Bull was busily engaged cooking the midday meal for his brother navvies, was a truly gladdening one. We subjoin rough sections furnished by Mr. NORTH of the coal at the Camp, Indwe River, about 20 miles east-south-east of Dordrecht, which gives results up to the end of June.

1.—Section of the coal in the small heading driven by Mr. F[illegible] FERGUSON at the point where it was discovered:—

	Ft.	in.		
COAL	0	9	COAL	
Shale	0	4	Shale	
COAL	0	9	COAL	
Shale	1	2		
Total				

showing 4 ft. 5 in. of coal in the aggregate within the distance of [illegible]

2.—Section of the coal in the heading driven by Mr. NORTH [illegible] 60 ft. from FURGUSON'S heading:—

	Ft.	in.		
COAL	0	7	Shale and coal	
Shale	0	3	Shale	
COAL	0	8	Coal	
Shale	1	0	Shale	
COAL	0	7	Coal	
Parting	0	1	Shale	
COAL	0	10	COAL	
Shale	0	3	Parting	
COAL	0	5	COAL	
Shale	0	9	Shale	
COAL	0	9	COAL	
Shale	0	10		
Total				

showing 5 ft. 6 in. of good coal in the aggregate within the distance [illegible] driven. Mr. NORTH is much pleased with the prospects so far [illegible] is sanguine that the quality and quantity of the coal will improve [illegible] the deeper the mine is worked. The Frontier Guardian and [illegible] Watch truly remarks that Mr. PETER FURGUSON, the discoverer of [illegible] hitherto hidden treasure, was also at work, making his piles of [illegible] precious black stuff. If ever a man deserved reward and recognition for his indomitable pluck and untiring perseverance and energy [illegible] in the face of so many difficulties and drawbacks that man is FERGUSON. For months—aye, years—past, late and early, in [illegible] or cold, wet or dry, he has devoted every available moment to [illegible] specting, and quarrying, and picking; and now that his reward [illegible] have at last been crowned with success it is hoped Government will [illegible] see fit to recompense him handsomely, poor man that he is, for [illegible] discovery. Mr. FERGUSON'S success has given a spurt to se[illegible] others, and already we hear of coal having been discovered [illegible] various parts of the district, notably at Willowpark (Mr. [illegible] SLATER'S farm), from which place Mr. SLATER kindly brought [illegible] a sample a few days since, and where he informs us it is actually [illegible] cropping out of the ground in some places.

THE GREATEST ENGLISH RAILWAY.

The London and North-Western is at once the greatest and oldest English railway. It may be said, indeed, to be the parent [illegible] English railways, since it was upon its Manchester and Liverpool section that the possibility of rapid transit upon rails was first [illegible] monstrated. It has been rather distanced in the race by the G[illegible] Western as regards its mileage, but its revenue is far superior to [illegible] of its huge neighbour; it also pays a better ordinary dividend, [illegible] its general prestige is higher. During the first half of this year [illegible] company has had to contend with many difficulties, in the shape [illegible] severe competition for traffic and stagnant trade, but it has [illegible] come all drawbacks and obstacles, and has been enabled to di[illegible] upon its ordinary stock for the six months ending June 30 at [illegible] rate of 6 per cent. per annum. This satisfactory result was la[illegible] attributable to the patient care and strict economy brought to [illegible] upon the various departments of working. Thus, although [illegible] general revenue of the company expanded from 4,410,927*l.* to [illegible] first half of 1876 to 4,438,460*l.* in the first half of 1877, the wo[illegible] expenses only increased from 2,447,031*l.* to 2,454,914*l.*, the net rev[illegible] realised in the first half of 1877 having thus been 1,983,546*l.*, ag[illegible] 1,963,896*l.* in the corresponding period of 1876. The receipts [illegible] coaching department were 7087*l.* less in the first half of this [illegible] but the merchandise, live stock, and mineral receipts were 30[illegible] more. The merchandise and mineral traffic especially present [illegible] satisfactory augmentation in the first half of this year, the aggre[illegible] movement having been 14,227,978 tons, as compared with 13,03[illegible] tons in the corresponding six months of 1876. With the view, [illegible] bably, of strengthening and consolidating their mineral traffic [illegible] tions, the directors of the London and North-Western succeeded [illegible] inducing Parliament to vest in the company the undertaking of [illegible] Whitehaven, Cleator, and Egremont Railway Company, although [illegible] is not quite clear that the short line thus taken over will not e[illegible] ually be vested jointly in the Furness.

The directors of the London and North-Western are pursuing [illegible] bold and spirited policy, and they are doing their utmost to en[illegible] the system to respond adequately to the ever increasing dem[illegible] upon its resources. Thus, between Longsight and Ardwick, M[illegible] chester, the line is being widened so as to comprise six lin[illegible] rails. The Lime-street Station, at Liverpool, is also being enla[illegible] and at a recent date nearly all the bridges for carrying the va[illegible] streets over the four lines of rails had been completed, while [illegible] whole of the excavation has been removed from the site of the [illegible] tion, and a portion of the additional platforms and sidings a[illegible] use; the scaffolding for the large roof of the station is also read[illegible] receive ironwork, which is in course of delivery. A large g[illegible] warehouse at the Broad-street Station, London, is making satis[illegible] tory progress, and tenders are about to be received for the erec[illegible] of a new goods warehouse at the Poplar Dock Station. Satisfac[illegible] progress, again, is being made with the works of the Great North [illegible] and the London and North-Western joint lines between Ma[illegible] Harborough and Nottingham. At Preston the contractors have [illegible] put in possession of the whole of the property required for a [illegible] station, and fair progress is being made with the works, conside[illegible] the difficulties which have to be contended with, in consequen[illegible] the heavy traffic passing through the station. The widening o[illegible] North Union Railway between Euxton and Preston has been c[illegible] menced. Thus the London and North-Western is steadily endeav[illegible] ing to adapt itself to the anticipated exigencies of the future.

MINERAL STATISTICS FOR 1876.—We learn that this volum[illegible] now in type, and that the publication may be expected in abo[illegible] fortnight. Mr. ROBERT HUNT, F.R.S., the Keeper of Mining [illegible] cords, appears to have been ready with a very large portion of t[illegible] Returns for the last two months; but a Treasury Minute, direc[illegible] that composition shall not be commenced until a work is absolu[illegible] complete, has retarded progress very considerably. However [illegible] cessary this regulation may be in respect to some works, it is t[illegible] regretted that it should be applied to a work of the charact[illegible] the "Mineral Statistics," every section of which might be got [illegible] type as soon as it is completed, and thus the publication ensure[illegible] a much earlier date.

COSTLY LITIGATION.—The award in the arbitration case of Asp[illegible] *versus* Seddon, which has extended over a period of four years, [illegible] at length been given. Some years ago Mr. Aspden, timber merch[illegible] of Blackburn, bought the ruins of a large mill at Westhoughton [illegible] which had been erected by the Westhoughton Cotton Spinning [illegible] Manufacturing Company. Mr. Aspden put the structure in rep[illegible] and stocked it with 33,000 spindles and 540 looms. Subsequ[illegible] an extraordinary increase in the price of coal induced Mr. Sedd[illegible] who resided at Westhoughton, to purchase some old mines un[illegible] neath the mill. They were at the time filled with water, but [illegible] was drawn off by Mr. Seddon, and the workings extended. As a [illegible] sequence there was a subsidence of the ground, and the mill [illegible] were cracked to such an extent that it was deemed unsafe to [illegible] the machinery, and the factory was closed in January, [illegible] Plaintiff sought for compensation, and eventually the case was [illegible] ferred to Mr. Edwards, Q.C., who has just given his award in fav[illegible] of the plaintiff for 15,242*l.*, with costs.

COAL AND IRON IN THE UNITED STATES.—No improvem[illegible] the manufactured iron trade of Pennsylvania can be reported, e[illegible] as regards price or demand; the tendency indeed is, if anything [illegible] the contrary direction. No orders of importance have been sec[illegible] for some time past, and the mills are rapidly running off old [illegible] tracts. The demand for steel rails has been light at Philadel[illegible] and prices have been drooping. For immediate delivery and pr[illegible] payment buyers can place their orders at slightly lower rates,

are not disposed to make concessions for forward contracts. the whole there is not much doing; the sales effected are con- in lots of a few hundred tons each, with an occasional 1000- The condition of the trade is one of anxiety and uncertainty, ering fallen to the bare cost of production. Prices are no- unchanged at $45 to $47 currency per ton at the mills. been very little demand for iron rails at Philadelphia, and dition of the trade has exhibited no improvement. Quota- are ranged at $33 to $35 per ton currency, according to qua- d terms. There has been no perceptible improvement in the for manufactured iron at Pittsburg. The steel trade has little slow at Pittsburg, but an increased trade is anticipated w weeks. The recent riots at Pittsburg have caused a very antity of scrap iron to be offered upon that market.

REPORT FROM CORNWALL.

28.—Few more cheering words have been spoken of the Cornish mining than those used by Mr. J. H. Collins in ing the Mechanical Section of the British Association. He d: "The situation of Cornwall is the best of all mining coun- ing nearly in the centre of the habitable world. It is co- with good roads, has fair railway accommodation, is sur- d with excellent harbours, is blessed with a moderate climate, people enjoy perfect security for life and property. The ants are bold, skilful, hardy, and full of expedients; these s have descended to them through many generations, and especially skilful in all mining operations. The rates of are moderate, and as there are many outlets for industry in es, in cultivating waste lands, fishing, and the like, em- n always get plenty of men without having to maintain times of slackness of trade. Long experience of the va- y of mining operations have to some extent made masters considerate, added to which the general adoption of con- ork makes the leading miners both employers and workmen, in the mining districts proper strikes are unknown. There a concentration of riches in the county that although, per- late discovery has hardly kept pace with exhaustion, there to encourage the explorer. The county is very accessible tors, who have excellent opportunities (which they have neglected) for seeing how their money is being spent. These ges, added to the comparative cheapness of fuel, the abund- water power are, on the whole, much greater than any other district possesses at the present time. Cornwall is very far hausted. Large districts are still almost entirely unexplored. nical treatment of mixed ores on the spot where they are s still in its infancy, and in the long run, perhaps for cen- et, she will be able to hold her own against the world." e cheering words, and we need something cheering with standards at 61s. and 62s.

e have been several mine meetings during the past few days, y do not present any special features for comment. All are less gloomy, and the prospects of coming calls, in addition e present, is anything but satisfactory. If things go on as w are, at least a score of competent and promising mines llapse before 1877 comes to an end.

meeting of the British Association has been the chief event week in the West, and if in numbers the Plymouth meeting been quite up to the mark its scientific interest has been hly sustained. The excursions have brought many hundreds itors acquainted with the special industries and the mineral of the West; that to Messrs. Martin's works at Lee Moor, on y last, was most enjoyable; and to-day Devon Consols, n, Phœnix, and the Cheesewing are being visited.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE

23.—The market for coal, pig, and finished iron is strength- y the action which the colliers are taking. And the tem- demand for fuel and ironstone is also improved. For im- e delivery these minerals are from 6d. to 1s. dearer. Foreign e in some instances 6d. a ton higher than a couple of weeks but makers' stocks keep native iron without change. Finished hibits a rise of 2s. 6d. and upwards. There is no great im- ent in the demand for finished or pig-iron.

arge number of notices were on Saturday given to the colliers minating contracts in a fortnight thereafter; and the men less determined than heretofore in their resolve—expressed lic meetings—not to accept the masters' terms. What, how- s likely to be the outcome of the movement will be less doubt- er the adjourned conference of masters and representative at Dudley, to-morrow. Meanwhile, there is upon the whole prehension now than a week ago that, in any event, there a prolonged cessation of activity at the pits.

e have been no material transactions in coal mining or iron- properties during the week, which remain generally as last . The 5 per cent. preference shares of the Patent Shaft and e Company have sold at ½ dis., and the property of the Staf- ire Wheel and Axle Company at 1⅛ prem., ex div.

report of the Cannock and Huntington Colliery Company that at both the pits sinking is actively going on. A depth ft. has been attained with the smaller drill at No. 1 pit, and ll diameter has also been excavated to a depth of 66 ft. In pit the smaller drill has been carried down to a depth of . Delay has been occasioned by the failure of some of the utters used with the larger drill, but a supply, which it is may prove satisfactory, has recently been obtained from a source. The machinery for the construction of the tubbing en erected, and the manufacture is at once to be commenced. ides of the pit are standing so well that in all probability no ary lining will be required, and thus a considerable saving e effected. The tramway is nearly completed, and is about used for conveying materials to the foundry and the colliery. anufacture of bricks by the company has been continued.

e late inactivity in North Staffordshire consequent upon the s has, now that work has been resumed, had the effect of im- g a little vigour to the mills and forges. Pig-iron and stone t selling with that briskness which is desirable, and stocks ge. The demand for manufacturing coal is not great.

meeting of the creditors of Mr. Wm. Watts, trading as "B. H. s and Co., metal rollers, metal merchants," &c., of the Parade, ngham, is to be held to consider the position of the firm. It derstood that the liabilities will amount to 83,000*l.* The assets timated to realise 30,000*l.*

will be of interest to colliery owners who may be engaged in g a new shaft that a sinker, named Caswell, has just recovered e Tamworth County Court from a Mr. Marshall 15*l.* for time n consequence of hindrances for which the defendant was re- ble, in the sinking of a pit shaft at Alvecote, near Tamworth. ll had engaged to sink 7 yards per week, at the rate of 7*l.* a but as the work proceeded the sinkers were thrown idle on l occasions by breakages of the engine supplied by Mr. Mar- for pumping the water out of the shaft. During the time the were idle they remained on the spot at Mr. Marshall's request, n promising to pay them. Defendant had paid some claims from this hindrance, but subsequently he denied his respon- ty, and hence the action. The plaintiff had sued for 20*l.*

E OF THE BRADFORD COLLIERY.—This property, held under ining agreements for coal and one for ironstone, granted by ket of Bradford to Mr. Thomas Thompson, was put up for sale Mr. J. P. Watkins, auctioneer, Walsall, at the Dragon Hotel, on ber, under the instructions of Messrs. Duignan, Lewis, and of Walsall. This mine has attracted much local interest, aris- out of a suit in Chancery of Mellor *v.* Thompson, recently reported ur columns, in which it was decided upon a compromise, with of the Court, that the ironstone agreement was joint property e partners in the late firm. In the course of that litigation it e necessary for the plaintiffs to obtain evidence of the prac- methods of working the ironstone with the coal in the Brad- Mine, and it occurred to Mr. Chidley, the solicitor, to consult Mr. F. Brown as to the possibility of taking photographs by artificial light underground. The experiments, which were conducted by those two gentlemen in the mine, were entirely successful; and the pictures obtained were in all respects equal to those obtained by sunlight, notwithstanding all the technical difficulties arising from confined position, increased temperature, and ventilation draughts in the mine workings, interfering with the condition of the wet sensitive plate. The well-known skill of Mr. Brown overcame those difficulties by a special chemical formula, and, with the combined aid of the lime-light and magnesium wire, he obtained perfect pictures—each taking about 25 minutes to obtain. We believe that this was one of the first attempts at practical underground photography as distinguished from the purely scientific experiments of Prof. Piazzi Smyth in the Egyptian Pyramids. There was a very full attendance of colliery proprietors, managers, and chartermasters at the sale, but the property was bought in by Mr. Thomas Mellor, one of the plaintiffs in the suit, for the sum of 1200*l.*, a sum stated by Mr. Watkins from his well-known great experience to be quite nominal with regard to the real value of the mine and machinery, and its exceptional advantage of a day level and both canal and land wharfage.

Mr. J. Silvester, secretary to the Spon Lane Colliery Company (Limited), has been summoned by Mr. J. P. Baker, Her Majesty's Inspector of Mines, for that being the owner of the colliery, had failed to comply with the notice from the Inspector requiring him to do certain things under the 46th section of the Coal Mines Inspection Act. Mr. Walker, of Wolverhampton, appeared for the prosecution, and Mr. H. Jackson for the defence. In opening the proceedings Mr. Walker said the defendant's company had sunk two shafts to the thick coal, the depth being 360 yards, and 100 yards below the level of a large accumulation of water in an adjoining pit, and in the event of the water coming in large quantities, which was not unlikely, a headway being in progress at the level of the water, the consequences would be most disastrous. On learning this state of things Mr. Baker sent them the notice which formed the groundwork of the present proceedings, but they had neither taken steps to remedy the condition of things nor expressed their intention to do so.—For the defence, Mr. Cooksey, mining engineer to the company, described the condition of the Spon Lane Company's pits and the Bromford pits, and said he did not believe there was any imminent danger, and at his suggestion negociations were in progress with Mr. Dawes, the owner of adjoining property, from which danger was apprehended, for the purchase of 80 or 90 acres, to get rid of the water.—The Bench imposed a fine of 10*l.* and costs, with a continuing fine of 10s. per day for every day of the continuance of the offence from the date of hearing.—*Wolverhampton Chronicle.*

REPORT FROM THE NORTH OF ENGLAND.

Aug. 24.—There has been little appreciable difference in the position of the pig iron trade of the North of England during the past week. There was only a trifling business done on 'Change on Tuesday, but makers were disposed to be a little firmer in their prices, and the majority declined to sell No. 3 for less than 40s. 6d. per ton, less 1 per cent. commission, other brands being sold at proportionate rates. The output of pig-iron is still too large, considering the limited extent of the demand, and a considerable quantity of iron is going into stock. Whether the relations of supply and demand will ultimately be rectified by a reduction of the number of furnaces now in blast remain to be seen, but such an event is regarded as not at all improbable. Meanwhile the prices realised leave only the most paltry margin of profit where profit is at all possible.

The Consett Iron Company, which is one of the largest in the North of England, and has its own collieries, blast-furnaces, ironstone mines, mills, and forges, has just issued a report showing that the profits realised on the trading of the past twelve months has been over 80,000*l.* This is justly referred to by the directors as an unexpected and remarkably good result, considering the depressed and depressing tendency of the times. The company will carry forward a considerable balance to the reserve fund.

Arrangements are now making for holding the autumnal meeting of the Iron and Steel Institute at Newcastle on Sept. 18, 19, and 20. The 21st will be devoted to an excursion to Teesside, where the works of Bell Brothers, and the new steelworks of Bolckow, Vaughan, and Company will be inspected. A number of interesting papers will be read, and a large number of works in the town and neighbourhood of Newcastle will be open for inspection. Mr. J. S. Jeans, of Darlington, is the acting secretary. A small committee has been appointed for the purpose of arranging the local details.

The South Durham Iron Company, which has three blast-furnaces at Darlington, are now in liquidation, and a meeting of the creditors and shareholders is to be held at Middlesborough on the 28th inst. to consider whether and what steps should be taken to dispose of the land and works. There is a sum of 10,000*l.* still unpaid of the original purchase money for the land and works, and it is also proposed to consider whether that amount should now be paid and applied out of the assets of the company.

Strikes of pitmen are still pending at Bearpark Colliery and at Ryhope, but steps are being taken to bring the differences in both cases to an amicable termination. The Ryhope case is peculiar. The men struck work because their check-weighman, who had been convicted and imprisoned for intimidation, was removed from his office by the local magistrates.

In reference to the Cleveland ironstone mines and miners, there is little new to report. The Belmont Mines of the Weardale Iron and Coal Company have now been closed, as well as the mines of the Liverton Company, and the Tocketts Mines of Pease and Company are only being worked four days and a half per week. Further limitations of the hours of working are probable.

REPORT FROM THE FOREST OF DEAN.

Aug. 23.—The case referred to in our last report was that of Messrs. Brain, owners of Trafalgar Colliery, plaintiffs, against Thomas and others, owners and mortgagees of Speculation Colliery, defendants. The claim was for alleged damage from water coming into Trafalgar Colliery from Speculation Colliery, belonging to the defendants. Damages were laid at 20,000*l.* The plaintiffs had considered that they were entitled to much higher damages, but ultimately laid their claim at the amount stated. The plaintiffs had tested the water as to its source by pouring ammonia from gasworks into Speculation Colliery, which subsequently found its way into Trafalgar Colliery, giving off that peculiar odour which rendered its presence obvious to those who entered the works. Specimens of the water from both pits were subjected to analysis, which showed definite proportions of ammonia present in the specimens tested from both pits. The case, however, was little more than opened in the Assize Court, before Judge Huddleston, when he expressed his belief that it ought to go before a referee or arbitrator, and accordingly it was relegated to an official referee, Mr. F. Bosanquet, who heard the case at the Bell Hotel. Several professional and learned men were engaged on each side, and the matter occupied several days, the litigants on each side trying to make evidence tell against the other. It would be too long and tedious, however, to go through the whole; but so far, the case was concluded on Saturday last when it was decided that the owners of Speculation Colliery were to re-commence pumping operations so as to exhaust the water, if possible, and in that way prove where its source may be, as it will be ascertained thereby whether such pumping will exhaust or sensibly reduce the water in Trafalgar Colliery. But the ultimate decision hinges on a point of law, which is reserved, upon which to appeal to a higher court, should either party decide so to do. We believe, however, that the Messrs. Brain have fully satisfied themselves that the water does come into their pit from Speculation Colliery, and that the water in their pit does rise or fall, according as the pumping is used or disused at Speculation, having some time, by the consent of the proprietors of Speculation, used the pumping machinery there for the purpose of easing their own works. The matter has been a very serious affair to the Messrs. Brain, as the quantity of water in their deep workings has at times reduced their daily output of coal to the extent of 200 tons. The origin of the water, however, is to be further tested, and some months hence the litigants are expected to meet the referee again, but what will finally be done it would, of course, be out of place to attempt to predict.

The Crown official and Forest mineral proprietors met at the gala dinner on Tuesday last at the Speech House, when some free and candid utterances were indulged in. The grievance of the high price of pit timber was ventilated, Mr. A. Thomas especially speaking out plainly, showing that much of the Crown timber supplied was inferior to timber obtained elsewhere, and 2s. per ton dearer, as he had weighed 12 months supply from the Crown woods. Sir J. Campbell gave what were esteemed satisfactory explanations, and it is expected that the pit proprietors will reap future benefit from Tuesday's friendly conference. Other matters were also discussed, especially the depressed condition of the local coal and iron trades, though, if a little improvement in shop businesses implies the receipt of a little more money on the part of the workers, it would follow that the workers have had some improvement as to the extent or number of days of employment per week in their labour, though with a little improvement times are still bad, and very trying among colliers and miners. Mr. Brown, the gaveller, at the meeting on Tuesday, expressed his belief that it behoved those engaged in the local trades to try and reduce the cost of production, a proposition which, to some considerable extent, may be carried out, but space and time preclude our making suggestions in that direction at present.

The railway interest was also touched upon, the Whimsey and Mitcheldean-road line being specially mentioned, when it was stated that it had passed into the hands of the Great Western Company. This has been expected for several months past, and we have repeatedly been assured that it was in course of negotiation; but even yet it lacks official confirmation and publication. We rejoice, however, that the Great Western will have it, simply because small companies with short lines are incompetent to properly serve the public. They are obliged to adopt such rates, which are prohibitory, not being able to give what are termed through rates, and paying for goods and parcels by several separate rates, trade becomes hampered, and less valuable. We, therefore, hope to receive the confirmation desired at the next half-yearly meeting of the Whimsey line proprietors, which is down for an early day next month. The Great Western Iron Company is anxious for passenger traffic on the Bullo line, which runs close by the Sewdley Works, and, were the Whimsey and Mitcheldean-road line finished and opened for passenger traffic by the Great Western Company, the Bullo branch and the Whimsey and Mitcheldean-road line would constitute a link to connect the South Wales and Hereford and Gloucester lines by a through passenger service *viâ* Sewdley, Ruspedge, Steam Mills, Nailbridge, and Drybrook, to the junction at Mitcheldean-road, for Ross, Hereford, Ledbury, &c. Prices and wages remain as for some time past.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Aug. 23.—Reports received during the week from the lead mining districts of Derbyshire are to the effect that for some time past there has been little change, the output of ore being still very moderate. Indeed, the good times in the lead country appear to have departed, for the number of miners has greatly decreased of late years. The collieries are also far from being busy, the demand for house coal in particular being still moderate. The London trade is comparatively quiet, although merchants manage to keep prices well up, considering what a large quantity of coal could be thrown upon the market at almost any time, for many collieries are not doing more than four days a week. This being the brisk season steam coal goes off pretty well, but prices at the pits are still low, so that railway companies have been able to make contracts at easier rates than for a very long time past, and the same is also the case with respect to gas nuts. There has been no new feature with respect to the Iron Trade, business going on as usual, the productions being up to the average.

In Sheffield trade with very few exceptions is still very dull, and there is every appearance of its continuing so. Of late, however, there has been a considerable improvement in the business doing with Australia in cutlery, edge tools, and light implements. The war has made very little difference to the town, contrary to what was generally expected, so that even the heavy armour-plate mills have only been kept moderately going, and one hears of very few orders being given out for warlike munitions. The close of the strike on the Clyde is likely to be of some little benefit to two or three branches in the town. Malleable iron and castings are still in fair request at the extensive works of Messrs. Crowley and Co., whose productions of an ornamental as well as ordinary character are fine examples of that description of work, a good deal of which was formerly of wrought-iron or steel. Some of the Bessemer establishments have been doing very well in rails, whilst at others the trade is but moderate. The foundries are going along tolerably well.

In South Yorkshire business has undergone no change of late, but the shipments of steam coal from Grimsby has been large as compared with the corresponding periods of the last two years. At the Dodworth Silkstone Colliery, near Barnsley, the men are still out, not having agreed to the terms proposed by the manager. But it is expected that work will shortly be resumed. The question of a reduction of wages has again cropped up in the same district, and in the early part of the week a meeting of colliery owners was held on the subject. But it is understood that no change will be made at present.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

Aug. 23.—The state of the Iron trade is unchanged again this week, and prospects look very gloomy. Large quantities of pig-iron are, however, turned out, notwithstanding the low rates which prevail. The finished department is very dull, and iron rails are at a discount. For bars for foreign exportation the demand is but limited. Clearances of iron during the week have been very small, and mainly to Brazil and Sweden. The steelmaking establishments are still fairly well employed. There appears to be indications of a slight revival in the iron trade of the Swansea portion of the district. The tin-plate trade is still depressed, but prospects look a little more hopeful.

A satisfactory omen has been the opening of a new works, belonging to the Waterloo Iron and Tin-Plate Company. A year or so ago a number of local capitalists projected the concern, the result being that convenient and commodious works have been built, at Rudry, Glamorganshire, near Machen. It is intended at present only to manufacture tin-plates, some 1200 boxes of which can be turned out per week. The works, however, admit of expansion, and may, if necessity requires, be adapted for the manufacture of bars, &c. The engines, boilers, &c., are of the newest make, and are by the Usk Company, of Newport. On Tuesday, a large and influential assembly took place at the works, Mr. Huzzey, Chairman of the company, presided at the luncheon, and the Mayor of Newport was among those present; Mr. Joseph Pierce is the managing director. The works are connected by a branch with the Brecon and Merthyr Railway, and are near the Caerphilly section of that line. A project is on foot, and will probably be brought before the next session of Parliament, to run the Caerphilly section to a junction with the Taff Vale Railway, near Pontypridd. The result will be advantageous to this company, who will thus be in direct communication with both Newport and Cardiff. Newport will be also greatly benefited if this scheme be carried out, as the valuable coal-producing district of the Rhondda Valley will then be within comparatively easy distance from the port, and the roundabout route now resorted to will be avoided.

The Coal Trade has altered but little. It is satisfactory to state that in the western portion of the district collieries are being restarted. The Ynisceedwin Ironworks and Collieries are about to be set going again; and other instances of the kind are mentioned. It is also rumoured that there is a probability of Bishwell Colliery, Gower-road, being re-started. Work has been stopped here for a long time. During the week foreign shipments have been fairly kept up, the falling off of last week not being observable. Prices are not one whit improved. House qualities are dull, and the demand for steam is stationary.

With regard to the Plymouth and Abernant Collieries and Ironworks, a meeting of the debenture-holders will shortly be held. It is said the majority of them object to further outlay. A short

time ago a notice requiring them to supply a sum amounting to at least 30,000*l.* for future operations was issued. The 40,000*l.* invested as working capital has been used.

The Swansea Wagon Company (Limited) are unable to pay any dividend for the last half-year, owing to unprofitable trading. The loss, however, is covered by the balance in hand.

It is again rumoured that there is a prospect of the Cyfartha Works, or a portion of them, being re-started at no distant date. One is so used to rumours of the kind, which have unhappily been so often without foundation, that I fear there is not much reliance to be placed in this.

The inquest on the body of a collier at the Tunnel Pit, Aberdare, has resulted in a verdict of accidentally killed by an exposion of gas. Mr. Galloway, H.M.'s Inspector, said this accident could not have happened had the men used safety-lamps.

The first of a series of meetings of colliers with respect to the re-starting of the Miners' Union has taken place at Mountain Ash. The men expressed themselves in favour of Union principles. Mr. Halliday and Mr. Abrahams delivered addresses.

TRADE OF THE TYNE AND WEAR.

Aug. 23.—There is no change of consequence to note in the state of the markets for the staple articles of produce here. A large business continues to be done in most kinds of coal and iron, with little profit to the producer. Such a dead level never did prevail for such a length of time. Ordinary manufacturing coals continue to be sold at very low prices, and there is no change in the rates of first-class coals and coke. The Ryhope Colliery—one of the largest in the world—has been stopped this week by the men. These works produce on an average considerably more than 2000 tons of coal per day. It must be considered a very serious hardship that the owners should be subjected to have such a work stopped without a moment's notice, and it may be asked what remedy have they? Will the Union compensate them? It is evident that the Union officials have no power to prevent such serious breaches of discipline on the part of the men and crimes against property, and they ought, therefore, to be compelled to reimburse the owners of these works for the serious loss they will sustain. The strike has been brought about by a dispute over the men's check weighman. The owners were compelled to get an order from the magistrates to remove him on account of gross misconduct, and the men in the most reckless and lawless manner stop the works unless he is reinstated.

An old member of the coal trade died lately—Mr. Thomas Hedley, of Newton. He had shares in some collieries in West Durham, and also large royalties. He has bequeathed 200,000*l.* to assist in the endowment of the new bishopric of Newcastle. His father was a remarkable man; he was a viewer at the Wylam Colliery in 1805, and many years afterwards, and about 1813 he constructed a locomotive engine which worked upon the Wylam Colliery Railway many years. This was the first locomotive worked with smooth wheels, as Mr. Hedley discovered that the friction caused by the weight of the engine, &c., was sufficient to drag the load of wagons. The engine of Mr. Blenkinsop, which preceded this, was worked with cog-wheels on the engine and recesses in the rails.

A novel project has been discussed lately for the conveyance of coals by sea to London and other parts on the coast. The novelty consists in this—At present most of the coals are conveyed by screw steamers, the engines for propelling these steamers being placed in the same vessel when the cargo is stowed. This arrangement causes the stoppage of the engines, of course, during the time the vessels are being loaded and unloaded. To obviate this the inventor proposes to construct steam vessels in one compartment, having only stowage for bunker coals, this vessel to be connected with the separate vessel containing the cargo just as a locomotive is connected with the trucks on a railway. By this means the steam propeller would be always kept at work. What the merits of this invention may be we are not prepared to say. Naval engineers and seamen will be best able to judge as to its probable merits. We should fancy, however, that such an apparatus would cut rather a forlorn figure in a storm in the North Sea.

At Middlesborough, on Tuesday, the market was extremely quiet throughout, transactions being very limited. Sellers, though prepared to give way somewhat, were scarcely prepared to accept the low rates offered by buyers. The sales were made at rates not exceeding No. 1, 44s.; No. 3, 40s. 6d.; No. 4 forge, 39s. 6d., less 1 per cent. commission payment on the new terms. The pig-iron market has in a great measure, if not altogether, lost the advance made at the beginning, and there is no reason to suppose that there will be such a demand within the next few weeks as to materially affect prices for the better. The Cleveland iron producers are now, however, entering into the keenest competition with producers in other home markets on their own ground, and are enabled by their present prices to do a very successful trade in the distant markets in respect to the quantity of iron disposed of, though they cannot be congratulated upon the prices they obtain, nor can their balance-sheets in most cases be regarded with complacency. There has been rather more doing in plates, but bars of all sorts have been rather slow of sale. The foundries are not so busy as they were, except where they manufacture pipes, in which a fair trade has been done, as has been the case all the summer. Plates are 6*l.* 12s. 6d.; common bars, 5*l.* 17s. 6d. to 6*l.*; angles, 6*l.* 2s. 6d. to 6*l.* 5s; sheets, 7*l.* 15s. to 8*l.*, all less commission. There is no change in the coal and coke trades worth mentioning.

We understand that arrangements have now been concluded for holding the autumnal session of the Iron and Steel Institute at Newcastle, on Sept. 18 and three following days. The meetings are likely to take place in the Wood Memorial Hall, and a number of valuable and interesting papers have been promised, by Dr. Siemens, F.R.S., President of the Institute; Dr. Percy, F.R.S., of the Royal School of Mines; Mr. I. L. Bell, F.R.S.; and others. A series of excursions are being organised to various works and places of interest in the district. One afternoon will be devoted to an excursion on the Tyne, another to an excursion to the Roman Wall, another to visiting Allen Heads, and the last day of the meeting will be devoted to an excursion to Teesside, where the members will have an opportunity of inspecting the new steelworks of Bolckow, Vaughan, and Co., now approaching completion, and the other establishments in operation throughout the Cleveland district.

DETONATORS.—Hitherto the composition of detonating tubes or detonators has been either fulminate of murcury alone or mixed with chlorate of potash, or with picrate of lead and chlorate of potash, or some such compositions as belong to the gunpowder class properly. Now, Messrs. MACKIE, FAURE, and TRENCH, of Faversham, make their detonators by mixing together the fulminate of mercury while wet with very finely ground guncotton, and some chlorate of potash, about in the proportion of six parts of fulminate and one part each of guncotton and chlorate of potash. The water in which the fulminate of mercury is usually stored is first drained off, and replaced by displacement by ether or alcohol, or a mixture of the two. While the fulminate of mercury is still moist with ether the guncotton and chlorate of potash are added, and the mixtures well rubbed together. This compound is next distributed in the tubes or detonator shells standing in a frame, and each detonator is put separately in the machine for pressing the paste firmly in the tube. This machine consists in a metallic table or disc rotating upon a central pivot, and the circular motion is given to it by a pedal arrangement, such as is employed in foot lathes. The disc or table stands horizontally, and is perforated by vertical holes upon its circumference; these are the holders for the detonators; over each detonator holder, and fixed in a guide carried by the table are spindles or pressing plungers, which will press the mixture inside the detonators. These spindles are pressed down by springs, but their descent is regulated by an oscillating disc through which they pass; this oscillating disc is carried round on the same axis as the table, and is kept at an angle with this axis by two rollers placed at the opposite end of the diameter to which the operator stands, the object being to obtain a gradual pressure, and at the same time to protect the operator from any explosion of the tubes while under pressure. The machine discharges the loaded tubes by a system of bottom spindles mounting upon a side roller as they pass by in the rotation of the table.

PUBLIC COMPANIES.—An Act has just been printed to amend the Companies Acts of 1862 and 1867. The object of the statute (40 and 41 Vict., cap. 26) is to remove doubts whether the power given by the Companies Act, 1867, to a company to reduce its capital extends to paid-up capital, and also to amend the law as to certificates. It is now provided that the word "capital" shall include paid-up capital, and the power to reduce capital shall include any lost capital or capital unrepresented by available assets, or to pay off any capital which may be in excess of the wants of the company, and paid-up capital may be reduced either with or without extinguishing or reducing the liability remaining on the shares of the company, and to the extent to which such liability is not extinguished or reduced it shall be deemed to be preserved, notwithstanding anything contained in the Companies Act of 1867. A company is now empowered to reduce its capital by the cancellation of unissued shares. The Act provides for the reception in all civil and criminal courts of certified copies of documents of proceedings registered under the Acts of Joint Stock Companies in the United Kingdom if duly certified as true copies. The Act has immediate operation.

BORING FOR WATER.—An interesting experiment is being made by the Stafford Town Council, in order to obtain a good water supply for the town. By boring to a depth of about 600 ft., by means of the Diamond Rock-Boring Process, they hope to penetrate the water-bearing rocks of the New Red Sandstone formation, which exists widely in Staffordshire, and in many places lies at an elevated level. A depth of 300 ft. has already been bored. It was asserted by many eminent geologists that extensive beds of rock salt existed in the variegated marls above the bunter rocks. This opinion has been found to be correct, for a bed of rock salt, 40 ft. in thickness, has been perforated, as well as various smaller reins; but the engineers find that the brine can be effectually "tubbed out" by means of iron lining tubes. A considerable length of time must necessarily elapse before the water-bearing rocks are entered.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Aug. 16	—Kingston Consols	8	£15 4 6	Nevill, Druce, and Co.
—	ditto	4¼	9 14 6	ditto
22	—Great Dyliffe	60	12 3 6	Adam Eyton.
23	—Van	75	12 3 6	Walker, Parker, and Co.
—	ditto	50	12 13 6	Adam Eyton.
—	ditto	100	18 18 6	ditto
—	ditto	100	12 7 6	Panther Lead Company.
—	ditto	25	12 3 6	Sheldon, Bush, and Co.
—	ditto	50	12 12 0	Weston, Son, and Co.
—	ditto	50	12 8 0	ditto
—	ditto	50	12 14 6	St. Helen's Lead Co.
—	Roman Gravels	175	12 3 6	Walker, Parker, and Co.

BLENDE.

Date.	Mines	Tons.	Price per ton.	Purchasers.
Aug. 16	—Kingston Consols	31	£ 4 10 6	Dillwyn and Co.
—	ditto	30 6½	3 3 0	ditto
23	—Van	75	2 18 6	Kenrick and Son.
—	ditto	75	3 0 6	ditto
—	Roman Gravels	20	3 6 6	Villiers Spelter Co.

NATIONAL ASSOCIATION OF COLLIERY MANAGERS.

With the object of forming an Association so desirable, the Advertisers—Colliery Managers of position and long standing—will be glad to receive the names of others willing to help them in this object. During the week succeeding the second appearance of this advertisement a Meeting will be called, as central and accessible as can be arranged, to best suit the majority of those having sent in their names.

In reply to this, address "Managers' Association," MINING JOURNAL Office, 26, Fleet-street, London.

IN THE MATTER OF THE COMPANIES ACTS, 1862 AND 1867; AND IN THE MATTER OF THE ILLOGAN TIN AND COPPER MINING COMPANY (LIMITED).

NOTICE IS HEREBY GIVEN, that at an Extraordinary General Meeting of the Shareholders in the above company, duly convened and held at No. 25, Bucklersbury, in the City of London, on Saturday, the 4th day of August, 1877, Resolutions were duly passed that the company be WOUND UP VOLUNTARILY, and appointing Mr. FREDERICK WARWICK, of 25, Bucklersbury aforesaid, Liquidator.

IN THE MATTE OF THE COMPANIES ACTS, 1862 AND 1867; AND IN THE MATTER OF THE ILLOGAN TIN AND COPPER MINING COMPANY (LIMITED).

THE CREDITORS and ALL PERSONS having CLAIMS against the above named company are required, on or before the 24th day of September, 1877, to SEND their NAMES and ADDRESSES, and the particulars of their DEBTS and CLAIMS, and the names and addresses of their Solicitors (if any), to FREDERICK WARWICK, of 25, Bucklersbury, in the City of London, the Liquidator of the said company; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before notice of any such debts or claims.

CAPE CORNWALL MINING COMPANY.

NOTICE IS HEREBY GIVEN, that at a Meeting of Adventurers in the above Mine, duly convened and held at No. 25, Bucklersbuay, in the City of London, on Saturday, the 4th day of August, 1877, Resolutions were duly passed that the company be WOUND UP VOLUNTARILY, and appointing Mr. FREDERICK WARWICK, of 25, Bucklersbury, in the City of London, accountant, and Mr. WATSON SMITH, of 5, Austinfriars, in the City of London, Joint Liquidators.

CAPE CORNWALL MINING COMPANY.

THE CREDITORS and ALL PERSONS having any CLAIMS against the above Mine are required, on or before the 24th day of September, 1877, to SEND their NAMES and ADDRESSES, and the particulars of their DEBTS and CLAIMS, and the names and addresses of their solicitors (if any), to FREDERICK WARWICK and WATSON SMITH, at 25, Bucklersbury, in the City of London, the Liquidators of the said Mine; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before notice of any such debts or claims shall have been received.

...ery, as will be seen, being capable of an adit level drainage of very ...t in depth, by comparatively short, as well as speedily driven, adit ...t from the slope and base of the mountain, and the marketable produce ...ered into trucks within ½ mile of the mine.

...not add anything further as to the important position of the property, or ...e value of the lo es. You have surveyed it carefully for yourself, and ...e ore broken, tested its character at various points, which I am quite ...more than bear out everything I have written in connection with this ...le mine. CHARLES KNEEBONE.

...ivies, Esq., Great St. Helens, E.C.

...Since writing the above I find that from ground already laid open we can ...make return of 10 tons of high quality lead or more per month, and at ...t.—C.K.

THE IRON AND STEEL INSTITUTE.

AUTUMN MEETING, 1877,

...NEXT GENERAL MEETING OF THE IRON AND ...EEL INSTITUTE will be HELD at NEWCASTLE-ON-TYNE, com- ...TUESDAY, September 18th.

...ons who may desire to read papers, or to make communications other- ...the ensuing Meeting, are requested to send early particulars to—

...minster Chambers, London, J. S. JEANS, Secretary pro tem.

...W., and Royal Exchange, Middlesborough.

UNIVERSITY COLLEGE, LONDON.

...GOLDSMID PROFESSORSHIP OF GEOLOGY is VACANT ...consequence of the RESIGNATION of PROF. MORRIS. An endow- ...£50 per annum is attached to the chair.

...tions for the appointment will be received on or before October 1st, at ...of the College, where further information may be obtained.

TALFOURD ELY, M.A., Secretary.

...YAL COLLEGE OF SCIENCE FOR IRELAND,

STEPHEN'S GREEN, DUBLIN.

SCIENTIFIC AND TECHNICAL EDUCATION.

...S COLLEGE SUPPLIES A COMPLETE COURSE OF ...NSTRUCTION IN SCIENCE, applicable to the Industrial Arts, espe- ...ose which may be classed broadly under the heads of CHEMICAL MA- ...URES, MINING, and ENGINEERING.

...ioma of Associate of the College is granted at the end of the Three Years'

...re Four Royal Scholarships of the value of £50 each yearly, with free ..., including Laboratory Instruction, tenable for two years. Two become ...ch year. They are given to Students who have been a year in the College. ...es are £2 for each Course, or £10 for all the Courses of each year, with ...ption of Laboratory Practice.

...STRY (THEORETICAL AND PRACTICAL), METALLURGY, &c.—Professor ...WAY, F.C.S.

...EMATICS, MECHANICS, AND MECHANISM.—Professor HENNESSY, F.R.S.

...SCRIPTIVE GEOMETRY, DRAWING, ENGINEERING, AND SURVEYING.—Pro ...IGOT, C.E., M.R.I.A.

...ERIMENTAL PHYSICS (THEORETICAL AND PRACTICAL).—Professor BAR- ...RSE, F.C.S.

...GY AND MINERALOGY.—Professor O'REILLY, C.E., M.R.I.A.

...NY.—Professor M'NAB, M.D., F.L.S.

...ANY.—Professor LEITH ADAMS, M.B., F.R.S.

...OGY.—Professor HULL, M.A., F.R.S.

...ZOOLOGY.—Mr. BAILY, F.G.S.

...Chemical and Physical Laboratories and Drawing School are open daily ...ical Instruction.

...SESSION COMMENCES on MONDAY, October 1st.

...Programmes may be obtained on application to the Secretary, Royal College of ...Stephen's Green, Dublin.

FREDERICK J. SIDNEY, LL.D., Secretary.

...OYAL CORNWALL POLYTECHNIC SOCIETY.

...FORTY-FIFTH ANNUAL EXHIBITION will OPEN at ...e Polytechnic Hall, Falmouth, on TUESDAY, August 28th, 1877: to ...st Eleven, A.M.; to the public at noon.

...esident, RICHARD TAYLOR, Esq., F.G.S., will deliver the OPENING ...ESS at One o'clock P.M.

...Exhibition will open on the following days, at Ten A.M.

EDWARD KITTO, Secretary.

GLASGOW AND THE HIGHLANDS.

...VAL ROUTE VIA CRINAN AND CALEDONIAN CANALS, ...by ROYAL MAIL STEAMER, "IONA," DAILY, at Seven A.M., and ...BRENOCK, at Nine A.M.

..., with map and tourist fares, free, at Messrs. CHATTO and WINDUS, Pub- ...s, Piccadilly, London; or by post from DAVID HUTCHESON and Co., ...ge-street, Glasgow.

MINING ON THE PACIFIC COAST.

...TAIN JOSEPH RICHARDS, MINING ENGINEER, ...late of Devon Great Consols and other Mines, and Mineral ...(for Earl Fortescue) may be consulted respecting all MINES ...PACIFIC COAST.

...MINES INSPECTED, REPORTS FURNISHED, &c.

...ress—

Capt. JOSEPH RICHARDS, M.E., Battle Mountain, Nevada,

...EXICO, NEW MEXICO, ARIZONA, UTAH, NEVADA, AND CALIFORNIA.

F. M. F. CAZIN,

...MINING AND CIVIL ENGINEER,

AT BERNALLILLO, NEW MEXICO, U.S. OF AMERICA,

...years' experience in Mining and Smelting, and 10 years' experience in ...n Business and Law, offers his services at moderate charges for Reporting ...ing and other Property in any of the above-named States or Territories; ...ect, safe, and responsible advice as to securing full titles and possession; ...the best mode of utilising the property, will assist in settling existing diffi ...by compromise, and in disposing of developed mining property when held ...ulae; offers his assistance for securing undeveloped mining properties at ...rices. As to care taken in reporting, reference is made to the *Mining Journal* ...ch, April 1, 1876, containing report on property of the Maxwell Land ...and Railway Company; as to technical standing, to the prominent men of ...—compare *Mining Journal* of Aug. 30 and Nov. 31, 1872, and *New York* ...and *Mining Journal*, Feb. 28, 1874.

T. R. GLOVER,

...RAL DEALER AND BROKER AND GENERAL FINANCIAL AGENT

2, EXCHANGE STREET EAST,

LIVERPOOL.

W. F. LOWE, F.C.S.,

Associate of the Royal School of Mines,

...SSAYER AND ANALYTICAL CHEMIST

ASSAYS AND ANALYSES MADE OF ORES, FIRE-CLAYS, LIMESTONES, &c.

...DDRESS,—ASSAY OFFICE, CHESTER.

Mr. E. JACKSON,

Associate of the Royal School of Mines,

ANALYST AND ASSAYER.

...or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and ...ASSAYING TAUGHT.

106, QUEEN VICTORIA STREET, LONDON, E.C.

Mr. SAMUEL HIGGS, F.G.S.,

ADELAIDE, SOUTH AUSTRALIA

...late of Penzance, and for Seven Years Superintendent of the Wallaroo Mines, S.A.),

...to an ENGAGEMENT as SUPERINTENDENT of MINES, or to IN- ...MINERAL or other PROPERTIES in any parts of AUSTRALASIA, ..., CHINA, or JAPAN.

...References, apply to ROBERT HUNT, Esq., F.R.S., Museum of Practical ...Geology, London; J. HALLET BATTEN, Esq. (late B.C.S.), F.R.G.S., late Secretary ...Geological Society of Cornwall, 5, Manston-terrace, Heavitree, Exeter.

...MMENS AND CO. (LIMITED),

MINING ENGINEERS AND MANUFACTURING CHEMISTS.

CHIEF OFFICE.

...MMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.

PRINCIPAL WORKS.

...MOOR, KELLY BRAY, AND WHEAL EDWARD, CORNWALL.

...Management of Mines and Chemical Works and the London Agencies of ...Colonial and Foreign Manufacturers and Commercial Firms undertaken. Technical Reports and Surveys of every kind made.

MANAGING DIRECTOR—DR. STEPHEN H. EMMENS.

...APTAIN ABSALOM FRANCIS

MINING AGENT, ENGINEER, AND SURVEYOR

GOGINAN, ABERYSTWITH,

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the TUCKER'S DOWNS MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the above-named company are required, on or before the 31st day of August instant, to SEND IN their NAMES and ADDRESSES, and the AMOUNTS and PARTICULARS of their several CLAIMS, to Mr. CHARLES WILLIAM CLINTON, the Official Liquidator of the said company, at the Stannaries Court Office, in Truro, within the said Stannaries.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, 21st August, 1877.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the TUCKER'S DOWNS MINING COMPANY.—The Vice-Warden has, by an Order made in the said Matter, bearing date this day, appointed CHARLES WILLIAM CLINTON, of Truro, within the said Stannaries, an Officer of the said Court, to be absolutely the OFFICIAL LIQUIDATOR of the said company.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, 21st August, 1877.

SOUTH CARN BREA MINE, IN THE PARISH OF ILLOGAN.
VALUABLE MACHINERY AND MATERIALS FOR SALE.

MESSRS. W. NICHOLL AND W. T. DAVEY have received instructions to SELL, BY PUBLIC AUCTION, on Wednesday, the 29th of August, 1877, commencing at Eleven o'clock precisely, the undermentioned

VALUABLE MACHINERY AND MATERIALS,

COMPRISING

ONE 36 in. cylinder PUMPING ENGINE, 8 feet stroke, equal beam, with TWO 10 ton BOILERS.

ONE 24 in. cylinder WINDING ENGINE, 7 feet stroke, with ONE 10 ton BOILER.

ONE 30 in. cylinder STAMPING ENGINE, with 40 head STAMPS, two s are AXLES, and TWO 10 ton BOILERS.

89 9 in. pumps	200 fms. rods, from 7 in. to 9 in., with strapping plates to match
6 9 in. matchings	29 shaft rolls
4 9 in. working barrols	20 fms. 1¼ in. bucket rods
6 9 in. door pieces	Bars and bolts in great variety
4 9 in. H-pieces	6 buckets and prongs
6 9 in. windbores	4 tram wagons
24 10 in. pumps	4 skips
4 10 in. pole cases	50 fms. 11-16 in. chain, nearly new
5 9 in. plunger poles, stuffing boxes and glands	150 fms. ⅝ in. chain
1 8½ in. plunger poles	A quantity of chain, different sizes
3 8 in. pumps	8-arm capstan
6 6 in. windbores	Shears
1 6 in. top door piece	

200 fathoms iron stave ladders, 200 fathoms 6 in. skip road runners, flange rings, brackets, water carriage, cistern, wheel and hand barrows, about 6 tons of railway iron, smiths' and miners' tools, comprising 40 in. bellows, 36 in. bellows, anvils, vices, screw stocks, with taps and plates, a large quantity of wood sheds, 10 feet water wheel, a good assortment of flooring, jigging gear, with tin and copper dressing materials, about 300 lots of new and old timber, together with all the requisites in general use in mines.

For further particulars, apply to the Auctioneers, Redruth.

Dated August 18th, 1877.

VALUABLE MINING PROPERTY IN COUNTY ANTRIM.

MESSRS. CASSON AND CHAMLEY WILL SELL, BY PUBLIC AUCTION, at the Furness Abbey Hotel, Barrow-in-Furness, in the county of Lancaster, on Tuesday, the 11th day of September, 1877, at Two o'clock in the afternoon, by the Order of the Representatives of the late JAMES FISHER, Esq., and without reserve, all that well-known MINING PROPERTY, situate in GLENRAVIL, COUNTY ANTRIM, and known as the

GLENRAVIL MINES,

Held under lease dated the 23rd day of November, 1871, for the term of 31 years, from the 1st day of August, 1871, at the yearly dead rent of £400, without any other payment to the lessor, and comprising 960 acres, more or less.

The mine has been in active operation since 1866, the present and average shipment p r year being about 20,000 tons.

The quality of the ore is excellent, averaging from 42 to 50 per cent. of metallic iron, and containing a large percentage of alumina.

With the exception of a very small portion, the whole of the ground comprised in the lease is ore ground, and is computed to contain about 7000 tons of ore per acre. The profitable working can be vastly increased on the revival of trade.

There is a tramway connecting the mines with the Ballymena, Cushendall, and Red Bay Railway, and with the county road from Ballymena to Red Bay, thus affording facilities for shipment of the ore both from Bel ast and Red Bay.

The mine is in full operation, and will be sold with the tramway, horses, and all working plant, and a stock of about 8000 tons at the pit's mouth as a full going concern.

There are a number of unexpired contracts at remunerative prices which will be handed over to the purchasers.

The Manager will show the Works; and further particulars can be had on application to Messrs. JAMES FISHER and SONS, Barrow-in Furness; to Mr. JOHN FISHER, Glenravil House, Ballymena; to the Auctioneer, Ulverston and Barrow-in Furness; to Messrs. CHESTER, URQUHART, MAYHEW, and HOLDEN, Solicitors, 11, Staple Inn, Holborn; and R. B. D. BRADSHAW, Solicitor, Barrow-in-Furness,

GLAMORGANSHIRE.

VALUABLE FREEHOLD AND COPYHOLD ESTATES AND MINERAL PROPERTIES, in the parishes of Neath, Llangelfach, Cadoxton, Glyncarwg, Banwen, occupying an area of upwards of 2000 acres. The portions now let yield a rental of £3600 per annum.

MESSRS. MARSH, MILNER, AND CO. WILL SELL, BY AUCTION, at the Mart, London, on Thursday, the 13th of September next, at Two o'clock, in One Lot, a TWELFTH PART or SHARE of and in the FREEHOLD ESTATE, known as

GLYN COCK,

Containing 54A. 2R. 18P., let at £15 per annum; the Ynisarwed Demesne and the adjoining farms of Blaenllwyd, Penylan, Pantadda, B'aengarcoed, containing 799A. 0R. 33P., producing £400 per annum; the Ynisarwed Colliery and Cottages, the Ynisarwed Lower Minerals and Cottages, producing £124 per annum; the Hendregarreg Estate, containing 360A., and producing, with the minerals, £477 per annum; Pyrback Ynisymen, in all about 500A., and of the value of £750 per annum; Cottages and Gardens, called Erron Coed; the Stag Inn, in the Vale of Neath; the Copyhold Farm known as Ynistomlyn, containing 89A. 3R. 35P.; and Blaennant Farm, containing 264A. 2R. 4P.

Particulars of E. H. BARLEE, Esq., Solicitor, 9, Finsbury Circus; and of the Auctioneers, 54, Cannon-street, London.

WITHOUT RESERVE.

IN RE THE CATHERINE AND JANE LEAD MINING COMPANY (LIMITED). *IN LIQUIDATION.*

LEAD MINE, together with the complete MACHINERY and PLANT.

MR. FRANK LEWIS (of the Firm of Messrs. FRANK LEWIS and KEMP) WILL SELL, BY AUCTION, pursuant to an Order of the Chancery Division of the High Court of Justice, at the Mart, Tokenhouse-yard, London, E.C., on Friday, September 14th, 1877, at Two o'clock precisely, the MINE known as the

CATHERINE AND JANE LEAD MINE,

Situate near the village and railway station of Penryn, Dendraeth, in the county of Merioneth, held under a lease direct from the freeholder for a term of 21 years, from the 1st March, 1873, at a royalty of 1-15th, and a dead rent of £20, merging into the royalty; together with the PLANT, MACHINERY, and EFFECTS for working the same.

The sett is about one and a half mile in length and one and a half mile in width, and is ready for immediate working, large sums of money having been laid out upon it and the machinery. The latter being in capital working order.

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BY ORDER OF THE LIQUIDATOR. IN LOTS.

SALE of the VALUABLE MINING PLANT and MACHINERY, including a 50-in. cylinder PUMPING ENGINE, a 28 in. cylinder WINDING ENGINE, TWO 10 ton BOILERS, about 130 fms. pumps, 170 fms. wire rope, 190 fms. capstan rope, smiths' tools, materials, and effects.

MESSRS. COOPER AND GOULDING WILL SELL, BY AUCTION, on the premises, the New St. Agnes Mine, near Scorrier, on Thursday, Oct. 11th, at Twelve o'clock, the

PLANT AND MACHINERY,

Lately in use for working the above mine (unless an acceptable offer be previously made by private contract).

Catalogues in due course, at the Auctioneer's Offices, 70 and 71, Bishopsgate street Within, London, E.C.

TO BE LET, ON LEASE, for Twenty-one Years, or such term as may be agreed upon, very valuable MINERAL and COAL MINES, extending over an area of about TWO HUNDRED ACRES, near WREXHAM, in the county of DENBIGH, part of the property known as

THE STANSTY HALL ESTATE,

Containing Main, Powell, and Brassy Coal, varying from three to nearly twelve feet, and the Two Yard Coal, and other good and large Seams of Coal near the Westminster and other Collieries, being the richest and most productive mineral properties in Denbighshire.

Proposals for working the whole or any portion of the above premises, not less than fifty acres, stating the minimum or dead rent recoupable out of royalties in excess of the sum offered, and stating the amount per foot per statute acre offered to be paid for Main, Powell, Brassy, and Two Yard Coal, also per foot per statute acre for all other Seams workable, to be made up to the 24th of September next, to Lady FRENCH, Elm Park, Merrion, Dublin.

Dated 24th August, 1877.

MESSRS. HUNT AND SACRE, having been instructed by the Neath and Brecon Railway Company to DISPOSE of their SURPLUS ROLLING STOCK, owing to the greater portion of the railway having been taken over by the Midland Company, beg to call the attention of parties requiring LOCOMOTIVES and WAGONS to this stock, particulars of which can be obtained from them at 26, Parliament-street, London.

Any of this stock can be seen at Neath, upon application to Messrs. HUNT and SACRE, at above address for an order.

TRUMPET CONSOLS MINES,

WENDRON, NEAR HELSTON.

TO BE SOLD, at the Account-house of the Mines, and as a going concern, on Friday, the 7th September next, at Three o'clock in the afternoon precisely, by MR. TRENGOUSE, Auctioneer (subject to such conditions as shall then and there stated and produced), ALL the INTERESTT of the adventurers of and in the SETTS or GRANTS and LEASES under which the mining operations have been carried on, together with the WHOLE of the

MINING PLANT, MACHINERY, MATERIALS, AND EFFECTS

now belonging to the adventurers, and now being within, upon, or about the said mines, and the several STAMPS PLOTS held in connection therewith, and comprising—48 in. PUMPING ENGINE, with TWO BOILERS; 24, 20, and 18 in. WINDING ENGINES, with THREE BOILERS; 450 fms. 4, 5, and 6 in. PITWORK; 350 fms. 5, 6, 7, and 8 in. main rods; 600 fms. ladders; 450 fms. flat rods and pulleys; large quantity of chain, kibbles, smith and miners' tools, and various articles and effects in general use in mines; together with numerous heads of water-stamps, dressing-floors, &c.

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Trumpet Consols, 22nd August, 1857.

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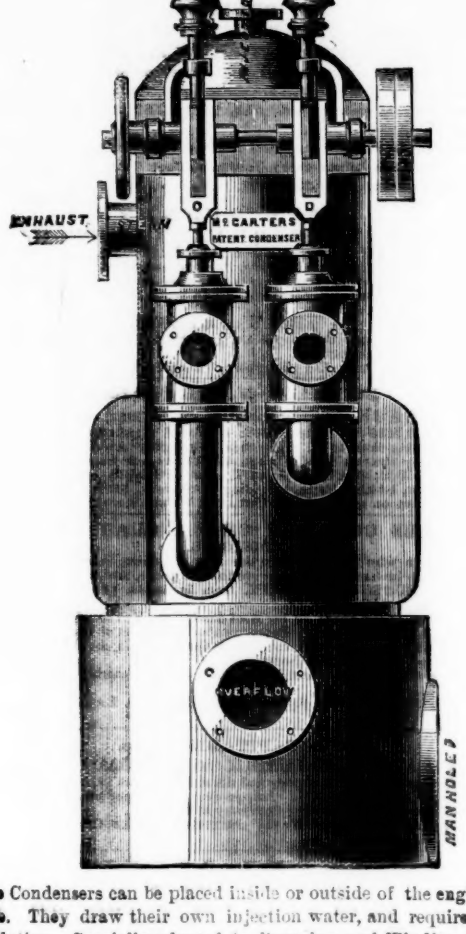

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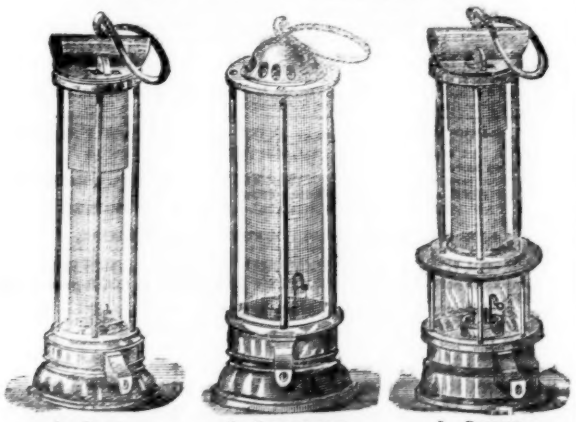

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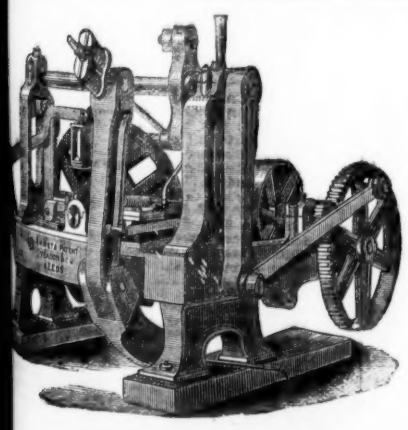

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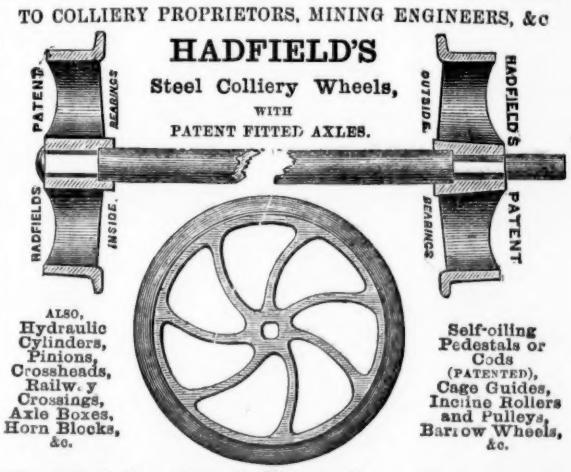

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1500	Alderley Edge, c, Cheshire*	10 0 0	—		12 11 8	0 5 0	Jan. 1876
15000	Balmynheer, t, Wendron (4000 to is.)	1 0 0	—		0 2 0	0 2 0	Nov. 1875
30000	Bampfylde, c, i, mn., Devon*	1 0 0	1⅜	1⅛ 1⅜	0 2 0	0 2 0	June 1873
200	Botallack, t, c, St. Just§	121 5 0	17½	15 17½	619 15 0	5 0 0	Aug. 1872
4000	Brookwood, c, Buckfastleigh	1 16 0	1	½ 1	3 16 0	0 2 0	Nov. 1875
2000	Bryn Alyn,* l, Denbigh. (10l. sh.)	8 0 0	—		0 7 0	0 7 0	Jan. 1877
3348	Cargoll, s-l, Newlyn§	6 9 0	3½	3 3½	4 16 3	0 12 6	Oct. 1872
6400	Cashwell, l, Cumberland*	2 10 0	2¼	2 2¼	1 9 6	0 2 0	Aug. 1876
1000	Carn Brea, c, t, Illogan†§	26 7 6	27	20 25	308 0 0	1 0 0	Feb. 1874
2450	Cook's Kitchen, t, Illogan†§	28 17 3	2s.	1s. 2s.	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†*	1 0 0	4¼	3¾ 4¼	116 15 0	0 5 0	July 1877
4296	Dolcoath, c, t, Camborne	10 14 10	24	22 24	111 11 3	0 5 0	July 1877
5000	East Black Craig,* l., Scotland	5 0 0	—		0 10 0	0 10 0	Feb. 1877
6144	East Caradon, c, St. Cleer†§	2 16 6	½	¼ ½	14 19 0	0 2 0	Oct. 1872
300	East Darren, l, Cardiganshire	32 0 0	—		235 10 0	1 0 0	Aug. 1876
6000	East Pool, t, c, Illogan	0 9 9	8½	8 8½	15 2 3	0 2 0	June 1877
4000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s. p.]		1¼	1 1¼	0 12 10	0 0 6	Mar. 1877
7500	Gorsedd and Merllyn Cons., l, Flint	2 10 0	6¼	5¾ 6¼	0 5 0	0 5 0	Aug. 1877
18000	Great Dylifie,* l, Montgomeryshire	4 0 0	4	3 4	0 2 6	0 2 6	Apr. 1876
15000	Great Laxey, l, Isle of Man*	4 0 0	21	20 20½	22 3 0	0 10 0	July 1877
615	Great Retallack, l, bl, Perranzabuloe	5 18 6	—		0 1 6	0 1 6	May 1876
25000	Great West Van, l, Cardigan,* pref.	2 0 0	⅜	¼ ⅜	0 2 0	0 1 0	Aug. 1874
6400	Green Hurth, l, Durham*	0 6 0	3	2½ 3½	1 15 0	0 3 0	Aug. 1877
20000	Grogwinion, l, Cardigan*	2 0 0	3½	2⅞ 3⅛	0 12 0	0 4 0	Feb. 1877
9830	Gunnislake (Clitters'), t, c	5 5 0	2¾	2½ 2¾	0 13 9	0 1 0	Oct. 1876
1024	Herodsfoot, l, near Liskeard†	8 10 0	6	5 6	62 5 0	0 15 0	Oct. 1872
18000	Hingston Down, c, Calstock*†	0 4 0	½	⅛ ⅜	0 1 0	0 1 0	Nov. 1875
60000	Holmbush, a, c, s-l, Callington*	1 0 0	2	1¾ 2	0 3 6	0 0 6	July 1877
2800	Isle of Man, l, Isle of Man*†	25 0 0	—		82 5 0	0 10 0	Feb. 1876
25000	Killaloe, s, Tipperary	1 0 0	—		0 3 11½	0 0 6	Mar. 1873
20000	Leadhills,* l, Lanarkshire	6 0 0	6	5½ 6	0 6 0	0 6 0	April 1877
400	Lisburne, l, Cardiganshire	18 15 0	80	75 80	582 10 0	1 0 0	July 1877
14000	Llanidloes,* l, Montgomery	3 0 0	2½	1½ 2½	0 9 0	0 4 6	Nov. 1876
6120	Lovell, t, Wendron	0 16 0	—		0 17 6	0 1 6	Jan. 1874
9000	Marke Valley, c, Linkinhorne	5 3 6	1⅛	⅞ 1⅛	7 15 0	0 2 0	Jan. 1876
9000	Minera Mining Co., l, Wrexham*	5 0 0	—		67 0 2	0 4 0	May 1877
20000	Mining Co. of Ireland, cl, c, l*	7 0 0	—		23 11 6	0 3 6	Jan. 1876
444	North Busy, c, Chacewater	3 9 6	—		1 10 0	1 0 0	July 1877
10289	North Hendre, l, Wales	2 10 0	—		1 12 6	0 2 6	Aug. 1877
2000	North Levant, t, c, St. Just§	12 2 0	—		4 13 0	0 12 0	Sept. 1873
6000	Pedn-an-drea Con., t, Redruth	0 8 6	—	6⅞ 7⅛	0 9 0	0 9 0	June 1877
5000	Penhalls, t, St. Agnes	3 0 0	2¾	2½ 2¾	3 13 6	0 2 0	July 1875
6000	Pennant, l, bar, North Wales*	5 0 0	5½	5 5½	0 5 0	0 5 0	Mar. 1877
45793	Penstruthal,* t, c, Gwennap	2 0 0	⅜	¼ ⅜	0 2 8	0 0 8	Nov. 1875
12000	Phœnix, & W. Phœnix, t, c, Link.§	3 4 9	4¼	4 4¼	2 9 6	0 4 0	Nov. 1872
18000	Prince Patrick,* s-l, Holywell	1 0 0	2¼	1¾ 2¼	0 14 0	0 1 3	Jan. 1876
394	Providence, t, Lelant†§	23 6 7	—		104 12 6	0 10 0	Sept. 1872
12000	Roman Gravels, l, Salop*	7 10 0	9⅝	9¼ 9¾	7 10 0	0 8 6	May 1877
512	South Caradon, c, St. Cleer	1 5 0	110	100 110	738 10 0	2 0 0	July 1877
6123	South Condurrow, t, c, Camborne‡	6 5 6	7¼	7 7½	2 12 0	0 6 0	May 1877
12000	St. Harmon,* l, Montgom.	3 0 0	3½	2½ 3	0 3 0	0 3 0	Jan. 1877
16000	So. Pr. Patrick,* s-l. (8000 sh. issued)	1 0 0	—		0 7 0	0 1 0	Oct. 1875
12000	Tankerville, l, Salop*	6 0 0	7¼	6½ 7	4 17 0	0 5 0	Dec. 1876
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	11	10 11	50 8 6	0 5 0	May 1877
18000	Van, l, Llanidloes*	4 5 0	34	31 33	21 11 6	0 16 0	June 1877
3000	W. Chiverton, l, Perranzabuloe†	12 10 0	13	12 13	55 0 0	0 10 0	Jan. 1877
4783	West Poldice, St. Day	10 0 0	13	11 13	1 19 0	0 4 0	July 1876
512	West Tolgus, c, Redruth	95 10 0	70	72½ 75	22 5 0	1 10 0	Aug. 1877
2048	West Wheal Frances, t, Illogan	28 1 3	1¾	1½ 1¾	3 12 6	0 5 0	Oct. 1872
12000	West Wye Valley,* l, Montgomery	3 0 0	4	3 4	0 6 0	0 3 0	Nov. 1876
512	Wheal Basset, c, Illogan†§	21 2 6	8	6 8	638 10 0	1 10 0	Aug. 1872
1024	Wheal Eliza Consols t, St. Austell	20 0 0	—		15 0 0	2 0 0	Aug. 1877
2048	Wheal Jane, t, Kea	2 13 10	¾	⅜ ¾	8 5 0	0 5 0	July 1877
4295	Wheal Kitty, t, St. Agnes	5 4 6	2	1 1½	11 19 6	0 2 6	Dec. 1874
25000	Wh. Newton, a, c, s, t, Calstock*	1 0 0	5½	5 5½	0 4 6	0 4 0	June 1877
80	Wheal Owles, t, St. Just§	86 5 0	80	75 80	522 10 0	4 0 0	Aug. 1876
6000	Wheal Prussia, t, Redruth	2 0 0	4¾	4½ 4¾	0 4 0	0 1 0	July 1877
25000	Wicklow c, sul, i, Wicklow	2 10 0	—		52 9 0	0 2 6	Mar. 1872
10000	Wye Valley, l, Montgomery*	3 0 0	4	3 4	0 10 6	0 4 6	Oct. 1876

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500	Alamillos, l, Spain*†	2 0 0	1¾	1¼ 1¾	1 17 3	0 1 0	Mar. 1877
30000	Almada and Tirito Consol., s*†	1 0 0	⅜	⅛ ⅜	0 6 3	0 1 0	May 1876
20000	Australian, c, South Australia†	7 7 6	2¾	1¾ 2¾	0 18 0	0 2 6	Aug. 1876
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	—		0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, g, California*	4 0 0	½	⅜ ⅝	0 14 0	0 2 6	June 1874
12320	Burra Burra,* c, So. Australia	5 0 0	—		70 0 0	0 10 0	Oct. 1872
20000	Cape Copper Mining,*† So. Africa	7 0 0	38	37 39	23 15 0	1 0 0	June 1877
40000	Cedar Creek, g, California*	5 0 0	½	⅜ ⅝	0 5 0	0 2 6	June 1873
15000	Chicago, s, Utah*	10 0 0	3	2½ 3	2 8 0	0 4 0	Nov. 1876
65000	Colorado United, s-l, Colorado*†	5 0 0	2	1½ 2	0 13 6	0 4 0	Jan. 1875
10000	Copiapo, c, Chili* (£20 shares)	16 15 0	—		7 11 5	0 3 0	May 1877
100000	Don Pedro North del Rey*†	0 16 0	½	⅜ ⅝	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt and Aurora, s, Nevada*†	10 0 0	5¾	5½ 6	1 8 0	0 3 0	Dec. 1876
70000	English and Australian, c† S. Aust.	2 10 0	1½	1¼ 1½	2 15 9	0 1 0	Mar. 1877
30000	Flagstaff, s, Utah*	10 0 0	3	2¾ 3¼	4 2 0	0 5 0	July 1873
25000	Fortuna, l, Spain*†	2 0 0	6	5 6	6 9 2	0 6 8	Mar. 1877
55000	Frontino & Bolivia, g, New Gran.*†	2 0 0	3	2⅝ 2⅞	0 1 0	0 1 0	June 1876
30000	Gold Run, hyd.	1 0 0	—		0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—		0 2 4	0 0 6	June 1873
20000	Last Chance, s,* Utah	5 0 0	1	¾ 1	0 14 0	0 2 0	July 1873
15000	Linares, l, Spain*†	3 0 0	6½	6 6½	16 17 2	0 9 0	Mar. 1877
65000	London and California, g*†	2 0 0	½	¼ ½	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 shares)	3 10 0	—		1 11 6	0 1 6	Mar. 1873
5000	Mammoth Copperopolis of Utah, c, s	10 0 0	—		0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1873
10000	Pontgibaud, s-l, France†	20 0 0	27	25 27	23 1 1	1 11 1	Nov. 1876
100000	Port Phillip, g, Clunes*†	1 0 0	½	⅜ ½	1 8 0	0 1 0	Jan. 1877
64000	Richmond Consols, s, Nevada*†	5 0 0	6	5½ 6	3 9 0	0 7 6	Oct. 1876
40000	Santa Barbara,* g, Brazil	0 10 0	2	1¾ 2	0 3 9	0 1 3	May 1877
120000	Scottish Australian Mining Co.*†	1 0 0	2	1¾ 2	15 per cent.		June 1877
80000	Scottish Austral. Mining Co., New	0 5 0	½	⅜ ½	15 per cent.		June 1877
112500	Sierra Buttes, g, California*†	2 0 0	1¾	1¼ 1¾	1 16 0	0 2 0	Oct. 1876
40000	South Aurora, s, Nevada*	5 0 0	¼	⅛ ¼	0 14 2	0 2 0	Nov. 1873
£253000	St. John del Rey*† (£5 stock and multiples dealt in)			290 310	½ year	20 p. ct. for	Dec. 1876
20000	Tolima, g, s* So. America	5 0 0	—		0 11 6	0 6 6	May 1874
25000	Victoria (London)*, g, Australia	1 0 0	¾	⅝ ¾	0 11 10½	0 0 10	Aug. 1876
15000	Western Andes, s,* New Granada	5 0 0	—		12 per cent. per an		July 1876
21000	W. Prussian (5500 pref. sh. 10l. paid)	10 0 0	11¼	10¾ 11¼	1 4 0	0 8 0	April 1877

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
30000	Anglo-Australian, g, Victoria*	2 10 0	—		Fully pd.
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—		Fully pd.
12000	Argentine, g, Argentine Republic	5 0 0	3¼	2¾ 3¼	Fully pd.
10000	Australian Central, g* (also 6000 deferred shares)	1 0 0	—		Fully pd.
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	—		Fully pd.
30000	Blue Tent, hyd., California	5 0 0	3¼	3 3¼	Fully pd.
35000	Cesena Sulphur Company, Romanga, Italy*	10 0 0	—		Fully pd.
50152	Chontales, g, s, Nicaragua*†	2 0 0	½	¼ ⅜	Fully pd.
16000	Condes of Chili, s-l	5 0 0	3¾	2¾ 3¼	Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—		Dec. 1871
100000	Exchequer, g, s, California*†	1 0 0	⅜	¼ ⅜	Fully pd.
40000	Holcombe Valley, g,* California	1 0 0	—		July 1873
8000	Hornachos,* s-l, Spain	10 0 0	—	13 14	Fully pd.
12000	Hultafall,* l, bl, Orebro, Sweden	5 0 0	6¼	5¾ 6¼	Fully pd.
30000	Imperial Brazilian Collieries, Brazil*	6 0 0	—		Fully pd.
60000	I. X. L., g, s, California*	1 0 0	½	⅜ ½	Fully pd.
50000	Javali, g, Nicaragua*	2 0 0	½	⅜ ½	Fully pd.
3500	La Manche, l, Newfoundland	10 0 0	—		Fully pd.
12000	Lanestosa,* l, z, Viscaya, Spain (£2 shares)	1 15 0	—		Mar. 1876
75000	Malabar, g, Colombia* (67165 issued)	1 0 0	⅞	⅝ ⅞	Fully pd.
40000	Malpaso, g, Colombia* (7400 pref. shares, fully paid)	1 0 0	¾	⅝ ¾	Fully pd.
12000	Menzenberg, c, Honnef, Germany*	5 5 0	—		Fully pd.
4588	New Bensberg, i, l, Germany	5 0 0	—		Nov. 1876
66000	New Quebrada, c, Venezuela*	5 0 0	2	1½ 2	Fully pd.
20000	New Zealand Kapanga, g, Coromandel*	5 0 0	1¾	1¼ 1¾	Fully pd.
3000	Oregon,* g, Oregon, U.S. (preference shares)	4 0 0	—		Sept. 1875
60000	Panulcillo, c, Chili*† (£80000 debentures)	4 0 0	1¼	¾ 1¼	Fully pd.
80000	Pestarena United, g, Italy*†	3 0 0	¼	⅛ ¼	Fully pd.
60000	Providencia and New Rosario, s, Mexico*	1 0 0	—		Fully pd.
60000	Rica, g, Colombia* (40000 issued)	1 0 0	¼	⅛ ¼	Fully pd.
£2,181,000	Rio Tinto,* c, Huelva, Spain	Stock	57	57 59	Fully pd.
100000	Rossa Grande, g, Brazil*† (£1 shares)	0 19 0	⅛	⅛	July 1872
30000	Russia Copper, Oremburg and Ufa*†	10 0 0	2¼	1¾ 2¼	Fully pd.
25000	San Pedro, c, Chili*	2 0 0	⅜	⅜ ⅝	Fully pd.
10000	Silver Plume, s, Colorado*	1 0 0	—		Fully pd.
30000	Tecoma, s, Utah*	10 0 0	½	⅜ ¾	Fully pd.
20000	Thornhill Reef, g, Australia*	1 0 0	—		Fully pd.
42174	United Mexican, s, Mexico*†‡	28 15 3	2	1½ 2	May 1875
14000	Utah, g, s-l, Utah*	5 0 0	—		Fully pd.
75000	Yorke Peninsula, c, South Australia	1 0 0	⅜	⅛ ⅜	Fully pd.
40000	Yorke Peninsula, s, South Australia Preference	1 0 0	1	¾ 1	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing	Prices.
Argentine, 1868, 6 per cent.	66	68
Bolivia, 6 per cent.	23	21
Brazilian, 1865, 5 per cent.	94	96
Chilian, 1866, 7 per cent.	99	102
City of Providence, 5 p.c. coupon bonds	98	100
Egyptian, 5 per cent. pref.	58½	59½
Do., unified debt, scrip	36	37
Do., 7 per cent., V.M.L.	66	68
Do., 9 per cent. guar.	74	76
Do., 7 per cent., K.M.L.	44	46

	Closing	Prices.
Foreign and Col. Gov. Trust, 6 p. cent.	68	73
Do., 5 per cent., 2d issue	51	56
Do., 6 per cent., 3d issue	52	55
Do., 1872, 4th issue	48	53
Do., 1873, 5th issue	48	53
Peruvian, 1870, 6 per cent.	13½	14½
Do. 1872, 5 per cent.	12	12½
Russian, 5½ per cent. L. Mort.	—	
Spanish, Quicksilver Mort. 5 p. cent.	94	96
United States Mort., 6 per cent.	96	98

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last wk.	Clos. pr
40000	Aberdaunant, l, Llanidloes*	1 0 0	1¼	1 1¼
10000	Aberystwith,* s-l, Cardigan	5 0 0	—	
80	Albion,* i, Cornwall	100 0 0	—	
7800	Alvig. & Burng.,* t, St. Aust.	3 0 0	3⅜	3⅛ 3⅜
18000	Ambrose Lake, t, c, Liskeard	1 18 6	—	
12000	Assheton, l, Carnarvonshire*	5 0 0	1½	1 1¼
50000	Ballycummisk,* c, Schull	2 0 0	—	
12000	Bedford United, c, Tavistock	2 0 6	¼	⅛ ⅜
28000	Belstone,* c, Devon (27,000 fy. pd.)	1 0 0	—	
15000	Blaen United,* s-l, Cardigan	1 0 0	—	
3937	Blue Hills, t, c, St. Agnes	3 7 6	—	
30000	Bodidris,* l, bl, Denbighshire	1 0 0	1¼	1 1¼
1000	Bollihope Vale,* s-l, Durham	5 0 0	—	5 5½
2000	Bowden Hill,* mn	1 0 0	—	
6000	Bradwell Moss Rake	1 0 0	1	⅞ 1
30000	Caldbeck Fells, l, Cumberland*	2 0 0	—	
20000	Cambrian,* s-l, c, Cardiganshire	2 0 0	2½	2 2½
10000	Central Foxdale, l, I. of Man* (2l. sh.)	1 5 0	—	
10000	Central Van,* l, bl, Llanidloes	5 0 0	—	
128	Clementina, l, Llanrwst	20 0 0	—	
7500	Combellack,* t, Wendron	2 0 0	3	1½ 2
6000	Combmartin, s-l, North Devon	0 7 0	⅜	⅜
24000	Court Grange, s-l. (6000 sh. 10s. pd.)	1 0 0	1⅛	1 1⅛
20000	Cwm Dwyfor,* c, s-l, Carnarvonsh.	0 16 3	—	
6500	Cwm Lanarch,* s-l, Carnarvon	2 0 0	2½	2 2½
3000	Cwmystwith (New) [5l. shares]	4 0 0	—	
512	D'Eresby Mountain, l, bl, Llanrwst	20 0 0	—	20 25
10000	Denbighshire Consolidated, l*	3 0 0	1½	1 1½
12000	Derwent,* l, Durham	4 0 0	3	2¾ 3
10000	Dubby Syke, l, Durham*	0 12 6	½	⅜ ½
4000	East Chiverton, l, Perranzabuloe	6 14 6	2½	2 2½
3000	East Craven Moor, l, Pateley Bridge	10 0 0	10½	10 11
6000	East Goginan, l, Cardigan	2 0 0	—	
18000	East Van, l, Llanidloes*	5 0 0	5¼	4¾ 5
20000	Elgar,* s-l, Cardiganshire	1 0 0	1¼	1 1¼
5000	Frank Mills, l, Christow	5 6 0	⅝	½ ⅝
8000	Fronvellan, l, Mont.* [4000 sh. fy. pd.]	1 0 0	—	
3950	Gawton, c, Tavistock	4 3 6	¼	⅛ ⅜
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	—	
14000	Glenroy,* s-l, Isle of Man	4 0 0	1⅛	1 1⅛
10000	Glyn,* l, Llanidloes	2 0 0	¾	⅝ ¾
12000	Goginan, & Level Newydd, Card., l	2 10 0	—	
100000	Gold, g, Merionethshire	1 0 0	—	
20000	Goren,* s-l, Carmarthen	1 0 0	1¼	1⅛ 1¼
20000	Gt. E. Foxdale, l, I. of Man (1l. sh)	0 18 0	—	
12000	Great Holway,* l, Flintshire	5 0 0	5¼	5 5¼
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	—	
6000	Gt. Wheal Eleanor, t, North Bovey	1 0 0	3	2 3
18000	Grosvenor, l, Holywell (£1 sh.)	0 15 0	—	
10000	Harehope Gill,* l, Durham (£1 sh.)	0 5 0	—	
6400	Harwood,* l, Durham	0 15 0	1	1
5000	Hush Eisteddfod Minera,* l	2 0 0	—	
200	Islay,* l, Scotland	28 0 0	—	
6000	Killifreth, t, Chacewater	2 1 0	¼	⅛ ¼
25000	Kingston Con., s-l, Stoke Climsland	1 0 0	—	
	Ditto, preference	1 0 0	⅝	½ ⅝
12000	Ladywell,* l, Salop	2 10 0	1¼	1 1¼
12000	Ditto, 10 per cent. pref., 1l. each	0 10 0	⅝	½ ⅝
2500	Levant, c, t, St. Just	9 6 6	—	
25000	Llanrhaiadr, l, Montgomery*	2 0 0	—	
30000	Llanrwst,* l, Carnarvon	2 0 0	4½	4 4½
15000	Llwyn Teify,* s-l, Cardigan	1 0 0	—	
6000	Medlyn Moor, t, Wendron	1 17 4	2	2
3500	Mellanear Copper, Hayle*	2 0 0	2½	2¼ 2½
6000	Ditto	1 15 0	2	1¾ 2
1000	Meyadwr, l, Cardigan*	3 0 0	—	¼ ⅜
11000	Monydd Gorddu, l, Cardigan* (Red.)	5 0 0	4	3 4
12000	Mount's Bay, c, Marazion	1 0 0	—	
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	—	
15000	Nascent Copper*	1 0 0	—	
6000	New Bronfloyd,* l, Cardigan (5l. sh.)	3 0 0	—	
20000	New Consols, s, a (in liquidation)	—	—	
8000	New Dolcoath, t, c, Camborne*	3 0 0	1¼	1⅛ 1¼
20000	New East Foxdale, s-l, Isle of Man	0 15 0	—	
16000	New Fowey Consols, t, St. Blazey*	3 0 0	2	1½ 2
1492	New Hendra, t, Breage	3 9 0	—	
3200	New South Merllyn, l, Flint*	2 10 0	1	½ 1
5000	New Wheal Emma, c, Buckfastleigh	2 0 0	—	
4000	North Cornwall, l, Cornwall	5 0 0	—	4½ 5
17000	North Laxey,* Isle of Man	2 0 0	⅞	⅝ ¾
20000	North Prince Patrick,* l, Holywell	1 0 0	...	
5936	North Treskerby, c, St. Agnes	3 17 10	—	
2000	North Wheal Towan, t, c, Illogan	1 19 6	—	
2500	Old Tincroft, c, t, Lelant*	4 0 0	4	3 4
6400	Oola Hills,* s-l, Limerick	5 0 0	—	
12000	Pandora,* l, Carnarvon	2 0 0	1¼	1 1¼
30000	Panty Mwyn,* l, Mold (8794 iss.)	2 0 0	2	2 2
16923	Parys Mountain,* c, Anglesea	3 0 0	½	⅜ ½
4000	Pateley Bridge, l, Yorkshire	5 0 0	2½	2 2½
12000	Pennerley, l, Shropshire*	2 0 0	¼	⅛ ¼
30000	Perkins Beach, l, Shropshire	1 0 0	1¼	1 1¼
12000	Plynlimmon, l, Llanidloes*	2 0 0	¼	¼
848	Polrose, t, Breage	21 0 0	—	
10000	Port Nigel,* s-l, Carnarvonshire	2 0 0	2½	2 2½
2000	Prideaux Wood, t, Llanivery	5 0 0	—	
12800	Prince of Wales, c, Calstock‡	2 2 0	⅜	⅛ ⅜
10000	Red Rock,* l, Cardigan	2 0 0	2¼	2 2½
6000	Relistian Consols, c, Gwinear	0 10 0	⅝	½ ⅝
15000	Rookhope, l, Durham*	1 10 0	1	⅞ 1
3000	Russell, s-l, Swymbridge	0 6 0	—	
5000	Silvercross,* c, t, Marazion	1 0 0	¼	⅛ ¼
4200	Snowbrook, s-l, Montgomery	5 0 0	5¼	5⅛ 5¼
000	So. Cwmystwith, l, Cardiganshire	2 0 0	4½	3 4
3000	South Darren, l, Cardigan*	1 10 0	—	
512	South Dolcoath, c, t, Redruth	12 5 0	1⅛	1 1⅛
18000	South Roman Gravels, l*	1 10 0	⅞	⅝ ⅞
6000	South Roskear, t, c, Camborne	6 10 0	5	4 5
6000	South Tolcarne, t, c, Camborne	1 14 0	¾	½ ¾
987	South Wheal Crofty, c, Illogan	28 19 10	9	8 9
4500	South Wh. Frances, c, Illogan†	7 12 4	¼	⅛ ¼
432	Spearn Moor, t, Penzance‡	47 17 9	—	
6000	St. Lawrence, Amal., l, Flintshire*	2 0 0	—	
10000	St. Patrick, l, Halkin, Holywell*	1 0 0	1⅜	1⅛ 1⅜
8000	Success, &c., l, Derb. (12,000l. called)	1 0 0	—	
16000	Sunnyside,* l, Durham	2 0 0	2½	2 2½
30000	Talybont, s-l, Cardiganshire	1 0 0	1¼	1 1¼
6400	Teesdale,* l, Durham	1 0 0	¾	¾
14000	Teign Valley, l, bar., Bridford	1 0 0	—	
10000	Temple, l, Cardigan*	1 0 0	1¼	1 1¼
10000	Tolgus Consols,* c, Redruth	5 0 0	5¼	5 5¼
12000	Trebeigh Consols, s-l, St. Ive	0 9 0	⅜	¼ ⅜
5000	Treleigh Wood, t, Redruth	6 1 0	—	
547	Trelyon Consols	15 0 0	⅜	¼ ⅜
12000	Trethellan, s-l, Crantock*	2 0 0	—	
2562	Trumpet Consols, t, Helston§	10 0 0	—	
640	Truro*, l, Nerquis, Flintshire	10 0 0	—	
10000	Tyn-y-Fron,* l, Cardigan	1 0 0	1⅛	1 1⅛
20000	Van Consols, l, Llanidloes*	2 10 0	⅜	⅛ ⅜
1000	Vaughan*, l., Cardiganshire	10 0 0	—	
12000	West Assheton, l, Carnarvon	1 0 0	1	¾ 1
6000	West Basset, c, Illogan†‡	5 13 4	2s.	1s. 2s.
5500	West Combmartin, s-l, North Devon	1 0 0	⅞	⅝ ⅞
7000	Ditto	0 2 6	¼	⅛ ¼
3000	W. Craven Moor, l, Pateley Bridge*	10 0 0	12	10 12
5000	West Godolphin, t, c, Breage	2 6 0	3	2½ 3
12000	West Goginan,* Cardiganshire	2 0 0	1¼	¾ 1¼
10000	West Llangynog, s-l, Montgomery	2 0 0	—	
3000	West Mary Ann, l, Menheniot	0 3 6	1	⅞ 1
50000	West Milwr, s-l, Flint	1 0 0	—	
5000	West of England Granite Company	2 0 0	2	2
20000	West Pateley Bridge, l, Yorkshire	1 0 0	1¾	1½ 1¾
1000	West Roskear,† s-l, bl, c, Camborne	2 0 0	15	10 15
12000	West Tankerville,* l, Salop	3 0 0	1	⅞ 1⅛
3000	Ditto, 15 per cent. pref.	3 0 0	2	1¾ 2
15000	West Treasvean,* c, t, Gwennap	1 0 0	1⅜	1¼ 1⅜
3000	West Wheal Peevor, t, Redruth	0 10 0	—	
600	West Wheal Seton, c, Camborne†	47 0 0	27	25 27½
6000	Wheal Agar, c, Illogan	11 10 0	3½	3 3½
6000	Wheal Argus, t, Sancreed	0 10 0	—	
6000	Wheal Coates, t, St. Agnes	2 0 0	2	1½ 2
2635	Wheal Comfort, c, Gwennap	1 5 0	5	4½ 5
6000	Wheal Crebor, c, Tavistock	4 1 0	2	1¼ 1¾
5179	Wheal Grenville, c, Camborne*	2 18 6	1¾	1½ 1¾
10000	Wh. Mary Hutchings,* t, Plympton	1 14 0	—	
2000	Wheal Peevor, t, Redruth	6 7 6	4	3½ 4
12000	Wheal Russell, c, Tavistock	2 1 6	⅜	¼ ⅜
4098	Wheal Uny, t, s, Redruth	13 11 6	¾	½ ¾
480	White Cliff,* l, Llanrwst	4 0 0	3	2 3

b, blende; c', coal; c, copper; g, gold; l, lead; s, silver; sl, slate; s-l, silver lead; t, tin; z, zinc.

Limited Liability Companies; † quoted on the Stock Exchange; ‡ have paid dividends.

IRON AND COAL COMPANIE

Shares.	Company.	Paid.
£100	Abbot, John, and Co. [L.]	75 0 0...
15	Albion Steel and Wire Co. [L.]	14 0 0...
5	Alltami Colliery Co. [L.]	5 0 0...
100	Ashbury Co. [L.]	80 0 0...
10	Bagnall, John, and Sons [L.]	10 0 0...
10	Benhar Coal Co. [L.]	10 0 0...
50	Bilbao Iron Ore Co. [L.]	50 0 0...
10	Bilson & Crump Meadow Coll. Co. [L.]	10 0 0...
4	Blaen Cwmbach Coal Co. [L.]	4 0 0...
50	Blaenavon Iron and Steel Co. [L.]	50 0 0...
100	Bolckow, Vaughan, and Co. [L.] A	45 0 0...
50	Bowling Iron Co. [L.]	50 0 0...
50	Britannia Ironworks [L.]	26 0 0...
100	Brown, Bailey, and Dixon [L.]	40 0 0...
100	Brown, John, and Co. [L.]	70 0 0...
5	Cakemore Colliery Co. [L.]	5 0 0...
100	Cammell and Co. [L.]	80 0 0...
20	Cannock and Huntington Coal [L.]	6 0 0...
10	Cardiff & Swansea St. Coal Co. [L.]	9 0 0...
10	Cardigan Steel and Wire Co. [L.]	8 10 0...
10	Central Swedish Iron and Steel [L.]	10 0 0...
5	Chapel House Colliery	5 0 0...
50	Charlton Iron Co. [L.]	50 0 0...
50	Chatterley Iron Co. [L.]	45 0 0...
10	Chillington Iron Co. [L.]	10 0 0...
1	Clee Hill Colliery Co. [L.]	1 0 0...
10	Consett Iron Co. [L.]	7 10 0...
1	Consett Spanish Ore [L.]	1 0 0...
50	Cooke, William, and Co. [L.]	40 0 0...
20	Darlington Iron Co. [L.]	12 10 0...
50	Davy Brothers [L.]	22 10 0...
5	Diamond Fuel Co. [L.]	5 0 0...
32	Ebbw Vale Co. [L.]	20 0 0...
100	Fox, Samuel, and Co. [L.]	80 0 0...
10	General Mining Ass. [L.] (£1 returned)	9 0 0...
20	Great Western Coal Co. [L.]	17 0 0...
2	Gwyngwillim Colliery Co. [L.]	2 0 0...
15	Hopkins, Gilkes, and Co. [L.]	11 0 0...
50	Knowles, Andrew, and Sons [L.]	17 0 0...
10	Llay Hall Coal, Iron, & Firebrick [L.]	10 0 0...
5	Littledean Woodside Coll. Co. [L.]	5 0 0...
50	Llynvi, Ogmore, & Tondu Co. [L.]	50 0 0...
10	Lydney and Wigpool Iron Ore [L.]	8 5 0...
10	Marbella Iron Ore Co. [L.]	10 0 0...
6	Mersey Steel and Iron Co. [L.]	5 0 0...
10	Midland Iron Co. [L.]	5 0 0...
5	Mold Argoed Colliery Co. [L.]	5 0 0...
10	Monkland Iron and Coal Co. [L.]	10 0 0...
4	Mwyndy Iron Ore [L.]	3 10 0...
100	Nant-y-Glo and Blaina (8 p.c. pref.)	100 0 0...
1	Nerbudda Coal and Iron	0 8 0...
20	New Sharlston Collieries [L.] Pref.	20 0 0...
10	Newport Abercarn Coal Co. [L.]	10 0 0...
10	Northmptn. Coal, Iron & Wagon [L.]	8 0 0...
10	Northfield Iron Co. [L.]	8 0 0...
1	Norton Green Coal Co. [L.]	1 0 0...
35	Palmer's Shipbuilding and Iron [L.]	25 0 0...
100	Parkgate Iron Co. [L.]	65 0 0...
20	Patent Nut and Bolt Co. [L.]	14 0 0...
20	Patent Shaft and Axletree [L.]	10 0 0...
20	Pelsall Coal and Iron [L.]	15 0 0...
50	Phœnix Bessemer Co. [L.]	40 0 0...
50	Rhymney Iron Co. [L.]	50 0 0...
10	Richards and Co. [L.]	10 0 0...
100	Sandwell Park Colliery Co. [L.]	100 0 0...
50	Ditto New	10 0 0...
100	Shotts Iron Co. [L.]	100 0 0...
100	Sheepbridge Iron and Coal [L.]	55 0 0...
50	Silkstone & Dodworth Cl. & Iron [L.]	27 0 0...
20	Skerne Ironworks [L.]	20 0 0...
50	Somorrostro Iron Co. [L.]	50 0 0...
25	South Wales Coal Co. [L.]	21 0 0...
100	Staveley Iron and Coal Co. [L.]	60 0 0...
100	Ditto ditto New	10 0 0...
20	South Cleveland Ironworks [L.]	20 0 0...
10	Swansea Valley Steam Coll. Co. [L.]	6 0 0...
100	Thames Iron Company	100 0 0...
50	Tredegar Iron and Coal Co. [L.]	20 0 0...
25	Ditto B. shares	25 0 0...
20	Ulverston Mining Co. [L.]	12 0 0...
1	United Bituminous Collieries [L.]	1 0 0...
10	Vancouver Coal [L.]	6 0 0...
100	Vickers, Sons, & Co. [L.]	100 0 0...
50	Welsh Ironworks Co. [L.]	50 0 0...
25	W. Cumberland I. and Steel [L.]	20 0 0...
10	West Mostyn Coal [L.] (12 p.c. pref.)	5 0 0...
5	West Swansea Colliery Co. [L.]	5 0 0...
10	Whitehaven Iron Co. [L.]	10 0 0...
100	Wigan and Whiston Coal Co. [L.]	70 0 0...
100	Wigan Coal and Iron Co. [L.]	75 0 0...

WAGON COMPANIES.

10	Birmingham Wagon Co. [L.]	10 0 0...
10	Ditto, 2nd issue	4 0 0...
10	Ditto, pref., 6 per cent.	10 0 0...
20	British Wagon Co. [L.]	10 0 0...
10	Gloucester [L.]	10 0 0...
10	Ditto, 5th issue	5 0 0...
10	Met. Rail. Car. and Wagon Co. [L.]	5 0 0...
5	Ditto, pref., 6 per cent.	5 0 0...
50	Midland	50 0 0...
20	North Central Wagon Co.	20 0 0...
5	Rail. Car. [L.] (Oldbury)	5 0 0..
5	Ditto, pref., 6 per cent.	5 0 0...
20	Sheffield Wagon Co. [L.]	15 0 0...
10	Yorkshire Wagon Co. [L.]	10 0 0...

TELEGRAPH COMPANIES.

"St."	Anglo-American	100 0 0...
10	Brazilian Submarine	10 0 0...
20	Direct United States Cable	20 0 0...
10	Eastern	10 0 0...
10	East. Exten., Australia and China	10 0 0...
10	Great Northern	10 0 0...
25	Indo-European	25 0 0...
10	Mediterranean Extension	10 0 0...
8	Reuters	8 0 0...
Stk.	Submarine	100 0 0...
10	West India and Panama	10 0 0...
20	Western and Brazilian	20 0 0...
$1000	Western Union, 7 per cent. Mort. Bonds	$1000 ...

MISCELLANEOUS.

Stk.	Atlantic and Great Western Leased Lines, Rental Trust	100 0 0...
25	Austral. Mort. Land and Finance [L.]	5 0 0...
25	Australian Agricultural	21 10 0...
10	Avonside Engine [L.]	7 0 0...
Stk.	Baltimore and Ohio, 6 per cent.	100 0 0...
10	Brighton Aquarium [L.]	10 0 0...
Stk.	Cent. of New Jersey Con. Mort.	100 0 0...
Stk.	Cent. Pacific of Calif., 1st Mort. 6 p.c.	100 0 0...
25	City of London Real Property [L.]	12 0 0...
25	Copper Miners of Eng. (7 p. c. pref.)	25 0 0...
5	Diamond Rock Boring	4 10 0...
15	English and Foreign Credit	8 0 0...
16	Fore Street Warehouse [L.]	14 0 0...
15	Foster, Porter, and Co. [L.]	10 10 0...
5	Gen. Phos. & Chem. Works Co. [L.]	5 0 0...
1	Glaisdale Whinstone Quarry	1 0 0...
1	Greenhill [L.]	1 0 0...
17	Hudson's Bay Company	17 0 0...
10	Huntington Copper and Sul. Co.	9 0 0...
Stk.	Illinois Central, $100 shares	100 0 0...
Stk.	Illinois & St. Louis Bridge, 1st Mort.	100 0 0...
Stk.	Ditto, 2nd Mort., 7 per cent.	100 0 0...
Stk.	Illinois Cent. Sinking Fund, 5 p. cent.	100 0 0...
Stk.	Ditto, 6 per cent.	100 0 0...
7½	Imperial Credit [L.]	7 10 0...
—	Ditto, Surplus Certificate	— ...
Stk.	Lehigh Val. Con. Mort., A, 6. p. cent.	100 0 0...
10	Milner's Safe [L.]	10 0 0...
25	National Discount [L.]	5 0 0...
Stk.	N. Cent. Rail. Con. Mort., 6 per cent.	10 0 0...
10	Pawson and Co. [L.]	6 0 0...
50	Peninsular and Oriental Steam	50 0 0...
Stk.	Pennsyl. Gen. Mort. 6 p. cent., 1910	100 0 0...
Stk.	Ditto, Con. Sink. Fund, 6 p. ct., 1905	100 0 0...
Stk.	Scottish Aust. Investment Company	100 0 0...
Stk.	Ditto, 6 per cent. Preference	100 0 0...
10	Silber Light (ord. sh.)	10 0 0...
20	Suez Canal shares	20 0 0...
12	Telegraph Construc. & Mainte. [L.]	12 0 0...
5	Ditto, Second Bonus Three per Cents	5 0 0...
10	Tharsis Sulphur and Copper Co.	10 0 0...
Stk.	Union Pacific Land Grant, 1st Mort.	100 0 0...
Stk.	Union Pacific Railway, 1st Mort.	100 0 0...

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